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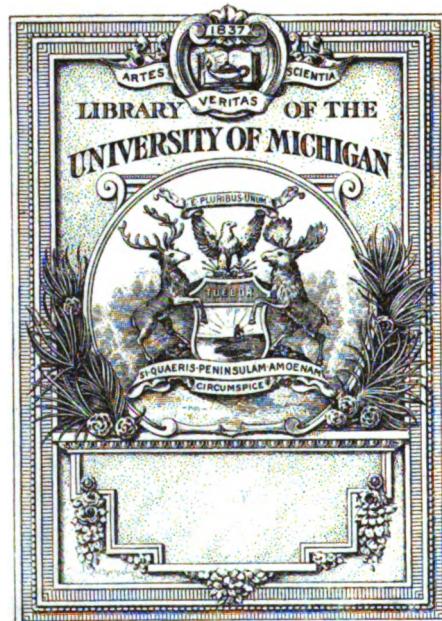
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THE
79487
QUARTERLY JOURNAL
OF
ECONOMICS

VOLUME XII

PUBLISHED FOR HARVARD UNIVERSITY

BOSTON
GEORGE H. ELLIS, 141 FRANKLIN STREET
1898

CONTENTS OF VOLUME XII.

SUBJECTS.	PAGE
American Economic Association, Committees of. <i>Note</i>	349
Andrews, President, Resignation of. <i>Note</i>	91
Arbitration in Railroad Labor Disputes, United States Act for. <i>Note</i>	468
Bailey, Samuel, on Appreciation. By C. W. Mixter	343
Bank of France, Extension of Privilege. <i>Note</i>	228
Bank-note System of Switzerland, The. By A. Sandoz	280
Bank of Issue in Switzerland, Text of Bill for	366
Banks in the West, Distribution of. By T. Cooke	70
Banks in the West, Tables on. Appendix	105
Bellamy's <i>Equality</i> . By N. P. Gilman	76
Bimetallism, International, Proposals of American Commission. <i>Note</i>	350
Canada and the Silver Question. By J. Davidson	139
Charity and Progress. By E. Cummings	27
Coal Miners' Strike of 1897, The. By J. E. George	186
Coal-mining Industry, The Settlement in. By J. E. George	447
Cournot and Mathematical Economics. By I. Fisher	119
Cournot's Mathematics, Notes on. Appendix	238
Cunningham, Dr. W., to lecture in Harvard University. <i>Note</i>	467
Currency Reform in the United States, Objects and Methods of. By F. M. Taylor	307
Economics an Evolutionary Science? By T. Veblen	373
Elementary Economics in Schools and Colleges. By F. R. Clow	73
French Canadians in New England, The. By W. MacDonald	245
Gas Supply of Boston, The. I. By J. H. Gray	419
Indian Currency Committee appointed. <i>Note</i>	467
Japan, Monetary Changes in. By G. Doppers	153
National Banking System, The. By C. F. Dunbar	1
Philadelphia Gas Works, The Lease of. By W. D. Lewis	209
Publications announced:—	
<i>Volkswirtschaftliche Abhandlungen der Badischen Hochschulen</i>	224
<i>L'Année Sociologique</i>	226
<i>Handwörterbuch der Staatswissenschaften</i>	226
<i>Wörterbuch der Staatswirtschaft</i>	226
<i>Dictionnaire du Commerce</i>	349
Publications upon Economics, Lists of Recent	99, 230, 366, 471
Secretary of the Treasury, Report and Proposals of, in 1897. <i>Note</i>	227
Street Railway Situation in Chicago, The. By J. H. Gray	83

	PAGE
Street Railways, Massachusetts Report on. <i>Note</i>	468
Swiss Railways, purchased by State. <i>Notes</i>	225, 350
Tariff Act of 1897, The. By F. W. Taussig	42
Taxation of Corporations in Ohio and Indiana. <i>Note</i>	352
Trusts, Recent Legislation and Adjudication on. By J. W. Jenks	461
Workmen's Compensation Act, English. <i>Note</i>	94
Workmen's Compensation Act, English, Text of	110
Workmen's Compensation Act, French. By W. F. Willoughby	398
Workmen's Compensation Act, French, Text of	478

AUTHORS.

CUMMINGS (E.). Charity and Progress	27
CLOW (F. R.). Elementary Economics in Schools and Colleges	73
COOKE (J.). Distribution of Small Banks in the West	70
DAVIDSON (J.). Canada and the Silver Question	139
DROPPERS (G.). Monetary Changes in Japan	153
DUNBAR (C. F.). The National Banking System	1
FISHER (I.). Cournot and Mathematical Economics	119
GEORGE (J. E.). The Coal Miners' Strike of 1897	186
—. The Settlement in the Coal-mining Industry	447
GILMAN (N. P.). Bellamy's <i>Equality</i>	76
GRAY (J. H.). The Street Railway Situation in Chicago	83
—. The Gas Supply of Boston. I.	419
JENKS (J. W.). Recent Legislation and Adjudication on Trusts	461
LEWIS (W. D.). The Lease of the Philadelphia Gas Works	209
MACDONALD (W.). The French Canadians in New England	245
MIXTER (C. W.). Samuel Bailey on Appreciation	343
SANDOZ (A.). The Bank-note System of Switzerland	280
TAYLOR (F. M.). The Objects and Methods of Currency Reform in the United States	307
VEBLEN (T.). Is Economics an Evolutionary Science ?	373
WILLOUGHBY (W. F.). The French Workmen's Compensation Act . .	398

INDEX OF AUTHORS

MENTIONED IN THE LISTS OF RECENT PUBLICATIONS.

NAME	PAGE	NAME	PAGE
Abbott, S. W.	236	Benigni, U.	103
Achard, A.	103	Bennett, R.	475
Ackland, J.	100	Bentzon, T.	232
Acollas, R.	475	Bertillon, J.	359
Acworth, W. M.	102	Bertram, A.	100
Adams, H. C.	475	Bielefeld, O.	357
Adler, E.	471	Birrell, A.	99
Aldrich, M. A.	357	Blanchet, A.	231
Allard, A.	474	Blei, F.	356
Andler, C.	100	Bleicher, H.	476
Apostol, P.	362	Bliss, W. D. P.	99
Arch, J.	362	Block, M.	364
Arndt, P.	361	Blondel, G.	475
Aschrott, P. F.	472	Bodio, L.	363
Ashley, W. J.	476	Boehm-Bawerk, E.	364
Atkinson, E.	359	Bogart, E. L.	103
Atkinson, F. J.	474	Borden, J.	102
Baden-Powell, G.	364	Borghs, R. von der	102
Bailey, W. B.	237	Bosanquet, H.	357
Baines, J. A.	474	Bourguin, M.	102, 234
Baldantoni, A.	234	Bowker, R. R.	364
Ball, S.	232, 472	Breckenridge, R. M.	474
Balletti, A.	477	Brentano, L.	101, 473
Ballod, C.	233, 363, 476	Breysig, K.	235, 363
Barberis, L.	101	Brooks, J. G.	358
Barlow, M.	104	Brough, W.	360
Barnett, S. A.	231, 236	Brunel, L.	473
Barth, P.	230	Bryce, J.	235
Baumgartner, E.	236	Buchenberger, A.	232
Bear, W. E.	101, 359	Bücher, K.	235, 364, 475
Beaurredon	475	Bunge, N. C.	356
Bellom, M.	357	Bunzel, J.	104
Belmont, P.	360	Burgess, J. W.	477
Bemis, E. W.	236, 477	Burkart, K.	234
		Buschmann, N.	357

NAME	PAGE	NAME	PAGE
Cannan, E.	476	Dietzel, H.	237
Carlisle, W. W.	361	Dilworth, J.	102, 234
Castelot, E.	235, 476	Dix, A.	477
Catterall, R. C. H.	102	Dodd, A.	472
Cauwès, P.	356	Dollfus, R.	234
Cavagliari, G.	104	Domeia Nieuwenhuis, F.	232
Chance, W.	100, 231	Doren, A.	103
Channing, F. A.	101, 232, 359	Douglass, W.	236
Channing, F. C.	471	Dubois, A.	230
Chapman, J. W.	861	Dubois, L. P.	475
Claparède, R.	231	Du Bois, W. E. B.	363, 364
Clews, H.	360	Dumont, A.	359
Cognetti de Martiis, S.	360	Dunbar, W. H.	237, 364
Cohen, G.	103	Dunham, S. C.	476
Cohn, G.	99, 471, 473	Durand, E. D.	103, 364
Commons, J. R.	364	Durkheim, E.	230
Comte, A.	104	Drage, G.	358
Conacher, H. M.	102	Droz, N.	360
Conrad, J.	230	Dyhrenfurth, G.	362
Cornil, G.	472	Eastman, F. A.	475
Cossa, E.	471	Eberstadt, R.	103
Courtney, L. H.	363	Edgeworth, F. Y.	230, 234, 362, 476
Craigie, P. G.	363	Edwards, C.	233
Crowell, J. F.	356	Egerton, H. E.	475
Crüger, H.	357	Ego, A.	231
Cunningham, W.	362	Ehrenberg, R.	100
Curtis, C. E.	234	Einhauser, R.	358
Daniels, W. M.	230	Elster, L.	230
Danvers, F. C.	101	Elton, J.	475
Darmstädt, P.	235	Emery, H. C.	477
Darwin, L.	360	Englert, F.	473
Davenport, H. J.	99	Essars, P. des	364
Davidson, J.	356	Evert, G.	231
Davitt, M.	362	Fagniez, G.	235
Dawson, W. H.	231	Fairlie, J. A.	360
Deiss, E.	475	Farrer	474
Delaperriere, E.	475	Feibelmann, E	234
Denny, G. A.	103	Fergusson, M. S.	364
Denyer, C. H.	358	Ferraris, C. F.	99
Deschanel, P.	472	Fiamingo, G. M.	103, 361, 471
Deschesne, L.	472	Fick, F.	234
Destree, J.	472	Fircks, R. A. v.	473
Devine, E. T.	100	Fisher, I.	236, 357
De Viti de Marco, A.	233	Fleck	233
Diehl, K.	357		

INDEX OF AUTHORS

vii

NAME	PAGE	NAME	PAGE
Fleischner, L.	356	Hallett, H. S.	474
Florian, E.	104	Hamilton, J. H.	361
Flux, A. W.	474	Hamlen, H. E.	101
Fontana-Russo, L.	235	Hammond, M. B.	101, 476
Ford, W. C.	474	Hampke, T.	237
Forrest, J. D.	477	Hannotin, E.	233
Fortescue, J.	104	Harris, G.	99
Fournier de Flaix, E.	236	Harris, M. D.	476
Franckenstein, L.	231	Harrison, J. C.	234
Francois, G.	102, 361	Hartung, J.	363
Franconie, J.	103, 234	Hecht, G. H.	476
Franke, E.	101	Heine, W.	232
Frankenberg, H.	100, 358	Heins, M.	359
Freymanck, H.	474	Heitz, E.	230
Fridrichowicz, E.	100	Helfferich, K.	474
Funck-Brentano, F.	236	Henderson, C. R.	104, 388
Garvin, L.	358	Hertzka, T.	99
George, H.	230	Hey, H.	231
Getz, P.	234	Heyn, O.	102
Giffen, R.	234	Higgins, E.	102
Gilman, T.	360	Hirschberg, E.	362
Girault, A.	233	Hirst, F. W.	472
Gladden, W.	237	Hirt, H.	476
Goldstein, J.	364	Hobhouse, L. J.	232
Gonner, E. C. K.	100	Hobson, J. A.	236, 471
Gottl, F.	99	Hogelstange, A.	362
Gottstein, A.	356	Hollander, J. H.	359
Goyan, G.	104	Holmes, G. K.	237
Grandke, H.	100	Holyoake, G. J.	362
Grasserie, R. de la	471	Hönncher, E.	360
Grave, J.	230	Hopkins, E. W.	476
Gray, J. H.	477	Hull, E.	235
Graziani, A.	471	Hunt, W. C.	104
Gregory, J. G.	103	Hunter, R.	101
Greswell, W.	233	Hiltsner, E.	104
Grinling, C. H.	473	Huvelin, P.	103
Grossman, F.	363	Hyndman, H. M.	358
Grünberg, K.	237	James, E. J.	365
Grupp, G.	236	Jastrow, J.	232
Guyot, Y.	232, 234, 237	Jaurès, J.	359
Hadley, A. T.	357	Jenks, E.	362
Haines, H. S.	360	Jenks, J. W.	234
Hallard, J. H.	234	Johnson, J. F.	361
Halle, E. von	103, 235, 360	Justus, J.	235

NAME	PAGE	NAME	PAGE
Kähler, W.	103	Loria, A.	101, 104
Kämmerer, G. H.	360	Lorini, E.	102
Kaufman, R.	233, 235, 475	Lotz, W.	361, 362
Kaufmann, A.	473	Ludlow, J. M.	232
Kautsky, K.	236	Lushington, G.	358
Kellar, G.	101	Lutschizky, J.	101
Kelley, F.	100, 358, 472	Luttgen, F. W.	361
Kerby, W. J.	358	Luzzati, G.	102
Kerr, A. W.	361	Lyon, P. C.	104
Kiaer, A. N.	476	Mackay, T.	357
Kidd, B.	477	MacLean, A. M.	100
King, W. A.	101, 233	Macnaghten, R. E.	359
King, W. L. M.	100	Maitland, F. W.	476
Komarzynski, J.	101	Mallock, W. H.	356, 359
Körösy, J.	236	Martinez, A. B.	475
Koszynski, S.	475	Matthews, S.	104
Kovalewsky, M.	359	Maurenbrecher, M.	476
Kriegel, F.	230	May, M.	99
Kuczynski, R.	233	Mayer, S.	237
Kühn, E.	233	Mayr, G.	104
Kulemann, W.	472	Meade, E. S.	234, 361
Labriola, A.	230	Means, D. M.	102
Lafargne, P.	100	Merlin, R.	472
Lambeau, L.	231	Merlino, S.	101
Lambert, M.	231	Métin, A.	101
Lampard, F. J.	472	Meuroit, P.	473
Lang, O.	100	Meyer, B. H.	233, 473
Lange, E.	231	Michel, G.	477
Laponge, G.	231	Mill, J. S.	477
Laughlin, J. L.	234	Miller, A. C.	362
Levollée, R.	362	Millis, H. F.	358
Leffler, J. A.	362	Mitchell, W. C.	361
Leroy-Beaulieu, P.	233, 359	Molinari, T.	361
Leth, K.	232	Mollien	477
Levasseur, E.	100, 231, 232, 233, 363	Mongredien, A.	364
Levetus, A. S.	472	Monnington, W.	472
Levi, G. G.	358	Morselli, E.	471
Levy, R.-G.	234	Moses, B.	363, 477
Lewinstein, G.	361	Mucke, J. R.	473
Lexis, W.	104, 361	Müller, G.	230
Lichtenberger, A.	235, 472	Müller, M.	235
Liebknecht, W.	359	Münsterberg, E.	231, 357
Liefmann, R.	230	Musco, A.	356
Lord, E. L.	476	Mutahoff, C.	356
		Myrback, F. v.	475

INDEX OF AUTHORS

ix

NAME	PAGE	NAME	PAGE
Neill, C. P.	99	Rostand, E.	233, 357
Newman, R.	104	Rothwell, W. T.	234
Nichols, G.	364	Rowe, L. S.	477
Nicholson, J. S.	99, 365	Russell, H. B.	361
Nicolai, E.	104	Rutter, F. R.	103
Nitti, F. S.	474	Salvioli, G.	359
North, S. N. D.	102, 472	Sanders, F. W.	356
Noyes, A. D.	234, 361	Sanders, G. A.	472
Oertmann, P.	358	Sanger, C. P.	362
Oppenheimer, F.	471	Sangiorgio, S.	362
Paisant, A.	365	Savatier	471
Pantaleoni, M.	231, 356, 357, 472, 477	Say, L.	475
Paréto, V.	99, 365	Sayous, A. E.	364
Patten, S. N.	99	Schaeffle, A.	477
Patterson, W. R.	365	Schanz, G.	358*
Peisker, J.	363	Schaube, A.	476
Petit, E.	230, 356	Scheel, H. v.	363
Phelps, L. R.	100	Schelle, G.	235
Phillimore, M.	232	Schmidt, C.	362
Pirbright, Lord	236	Schmoller, G.	230, 364
Platter, J.	232, 358	Schönberg, G.	477
Porritt, E.	237	Schubert, G.	235
Powers, L. G.	358, 359	Schuhler, H.	361
Prager, M.	102	Schüller, R.	232
Prinzing, F.	473	Schumacher-Zarchlin, H.	363
Puini, C.	365	Schurtz, H.	235, 476
Puviani, A.	235	Schüssler, H.	231
Rabbeno, U.	473	Schutzer, E.	235
Radu, V. J.	359	Schwiedland, E.	100, 232
Rae, J.	358	Scotsburn	472
Raffalovich, A.	234, 362	Scott, W. A.	357
Rambaud, P.	356	Seidler	475
Randolph, C. F.	237	Seilliére, E.	101
Raseri, E.	473	Senner, J. H.	101
Reeves, W. P.	232, 358, 476	Shaxby, W. J.	231
Reisch, R.	103, 235	Sherwood, S.	99, 231, 356
Reitzenstein, F.	99	Sigel, F.	365
Reitzenstein, M.	101	Silbermann, J.	365
Renard, C.	472	Simchowitz, W. G.	231
Rheinhold, K. T.	471	Simmel, G.	471
Ripley, A. L.	474	Simon, H.	472
Rochetin, E.	358	Simons, A. W.	358
Rockell, F.	100	Sloane, W. M.	476
Rössger, R.	104, 237	Small, A. W.	99
		Smith, C. W.	365
		Smith, E. J.	477

NAME	PAGE	NAME	PAGE
Snell, W. E.	232	Villey, E.	357
Sohm, R.	232	Vincent, J. E.	233
Sombart, W.	236	Virtue, G. O.	332
Soyeda, J.	474	Voigt, P.	100
Speirs, F. W.	365	Volta, R. dalla	234, 472, 473
Spera, G.	473	Waentig, H.	364
Starcke, C. N.	357	Wagner, A.	359, 362
Steck, A.	100	Wagner, H. L.	365
Stephens, T. A.	102	Wallas, G.	363
Sterns, W. P.	363	Walras, L.	102, 357, 474
Stetson, C. P.	364	Waltermann, W. K.	361
Stickney, A.	237	Ward, L. F.	356, 357
Stieda, W.	231	Warner, J. DeWitt	102
Stimson, F. J.	104	Waxveiler	471
Stone, N. I.	477	Webb, S. and B.	100, 232, 357
Stroever, C.	231	Weber, A.	232
Stuckenbergs, J. H. W.	356	Weichs-Glon, F.	237, 365
Stumpfe, E.	101	Weissenbach	474
Supino, C.	477	Wenckstern, A.	359
Swain, H. H.	473	Wernicke, J.	237, 475
Swan, C. H., Jr.	102	Wert, M.	365
Swank, J. M.	360, 364	Weyl, W. E.	474
Tangorra, V.	361	Wicksell, K.	474
Taylor, B.	472	Widmer, E.	235
Tenerelli, F. G.	475	Wilcox, D. F.	237
Thery, E.	361	Willcox, W. F.	104, 363
Tooke, C. W.	475	Willey, F. O.	231
Tosti, G.	99	Williams, E. E.	102, 474
Troeltsch, W.	235	Williams, G.	235
Turgot	104	Willoughby, W. F.	100, 231, 357, 477
Turner, B. T.	235	Wokurek, L.	357
Twining, L.	357	Wolff, H. W.	104, 232, 358
Ulrich, F.	360	Woodruff, C. R.	365
Ussher, R.	359	Wyckoff, W. A.	231
Vaccaro, M. A.	231	Young, A.	363
Valenti, G.	359	Youngusband, F.	363
Vandervelde, E.	472	Yule, G. U.	363
Vanlaer, M.	232, 472	Zablet, M.	477
Van Oss, S. F.	477	Zacher	357
Varges, W.	103	Zenker, E. V.	232
Verhaegen, P.	358	Zini, Z.	232
Verney, E.	359	Zoppi, G. B.	230
Viallate, A.	360	Zorli, A.	234
Vibert, P.	360	Zwiedineck-Südenhorst, O.	471

THE
QUARTERLY JOURNAL
OF
ECONOMICS

OCTOBER, 1897

THE NATIONAL BANKING SYSTEM.

OF the constituents of our paper currency the government notes are amply shown by the history of the last thirty years to be the dangerous element. Experience has shown that we can rely upon no principle or policy as a safeguard against the caprice or the temptation, which at intervals must surely beset any legislative body having control of the direct issue of paper. The bank-notes, on the other hand, have been jealously guarded and strengthened by legislation, until they resemble a government issue resting upon a special fund of cash and securities rather than the promises of corporations. In their case the present need of reform is not the result of excess or of insecurity. Their increase is under heavy restraint, and they are as secure as the credit of the government can make them. Their grand defect is want of adaptation to the proper business of banking, which limits their usefulness in some parts of the country and makes them practically unavailable for issue in others.

The framers of the bank acts of 1863 and 1864, which have become Title LXII. of the Revised Statutes, had

their attention fixed chiefly on the provision of a paper currency of uniform value throughout the United States, which should absorb by permanent investment a certain amount of United States bonds, and should become the sole paper currency of the future. Indeed, the title of each act, "An Act to provide a National Currency, secured by the pledge of United States stocks [or bonds], and to provide for the Circulation and Redemption thereof," sufficiently shows the point of view from which these measures were regarded. The provisions as to the general business of banking were, no doubt, greatly in advance of those existing in many States; but, after all, it was the issue of notes upon a secure basis which interested Congress and the public at the time, and has continued to be a leading consideration in national legislation on this subject ever since. Perhaps the failure of the national system to meet the wants of large sections of country might not, even now, have secured the attention which it deserves, had not the provision for the safety of the notes finally undermined the issue and threatened its extinction. The inability of the system as it stands to perform steadily and satisfactorily its chief duty of supplying the business of the country with a safe and adequate currency, has finally brought the whole subject of banking under discussion, and has raised the question as to the proper co-ordination of issue with the other functions of banks, in a more radical form than for thirty years before.

Although the purpose of this paper is to consider some of the points at which, in the judgment of the writer, the national banking system has proved to be badly adapted to the present needs of the country, the writer must premise that the national system appears to him to be the foundation on which any reform of our bank-note currency must necessarily stand. Experience under that system

has shown plainly the gain secured by uniformity of regulation and unity of supervision. There is no question that the national banks find their credit in every form strengthened by the fact that all rest upon the same law, universally known, and are under the same recognized authority, whose mode of operation is universally understood. That the convenience of their notes for use is materially increased by this unity of regulation, and by the uniformity of design of the notes themselves, is perhaps the one point in the working of the national system as to which all are agreed. To replace such a system by any complex arrangement by which the right of issue should be extended to State banks would be a palpable sacrifice of advantages, from which the public as well as the stock-holders of the banks are now gainers. It has been proposed that such State banks as may accede to proper regulations prescribed for safety and solvency should be allowed the right of issue. But it is difficult to see how such regulations could be enforced with certainty except by the authority of the United States, or by that authority without much risk of friction and possible conflict between national and State jurisdictions, or without such strictness of rule and superintendence as would destroy the reasons for preferring State organization to national. The last-named consideration is the more serious when we consider the fact, not to be disguised, that in many States the local opinion as to what is safe regulation and what is not is too loose to be satisfactory beyond the State line. In short, practical as well as theoretical difficulties begin to multiply, as soon as we attempt to reconcile the conception of a really national currency with anything short of an absolutely uniform system of safeguards.

The banking history of the United States has been for the most part a succession of catastrophic changes rather than a process of steady growth. One expedient after

another has been taken up, abruptly dismissed in its turn, like the two Banks of the United States, or suddenly revolutionized, like the currency provisions of the Independent Treasury act. The national banking system has now had a longer term of active existence than any other national system adopted in this country, or any important State system of issue. Seriously as its defects have limited its usefulness, it has grown in strength and credit. In the course of a generation it has collected a mass of legislation, judicial precedents, and rules of official practice, which make up a body of administrative law of remarkable completeness and value, known from one end of the Union to the other,—a common possession, in which it is not impossible that all our people may yet come to appreciate their common interest. This is a foundation to build upon, not an experiment to be dismissed and superseded by some other. Never since the early part of this century has there been a like opportunity to improve our legislation upon banking and currency by the proper adjustment of an existing system, old enough and successful enough to have acquired an historical position and credit. We now enjoy an advantage analogous to that which England finds in making the ancient reputation and strength of the Bank of England the starting-point in any financial measure, or France in her careful adhesion, through every revolution in dynasty or politics, to the century-old Bank of France.

It is also a practical consideration of great weight that any change in the existing system would be made with the least disturbance of business relations and practices, if it were made by the better regulation of the mass of banks which already have the right of issue, but upon this it is not necessary to dwell.

The defective adaptation of the national banking system to the needs of the different sections is amply shown

by the reports of the Comptroller of the Currency. From the latest of these reports* it appears that in 1896 more than two-thirds in number of the national banks and more than three-fourths in capital were to be found in the belt of States lying north of the Potomac and Ohio on the east of the Mississippi, and including Iowa and Minnesota on the west of this river. The same States have more than one-third in number and two-fifths in capital of the State banks carrying on business without the right of issue; but the State banks, taking these States together, carry on an unequal contest with the national system. In the rich States of the North the vast preponderance, in number, capital, and business, is with the national banks, although, as we advance westward, the newer States, even in this belt, show a more equal division of the field. Coming to the South and South-west, excluding Missouri, we find the national banks less numerous than the State banks, but holding about seven-twelfths of the capital and a slightly larger proportion of the deposits. The group made up of Missouri, Kansas, Nebraska, and the Dakotas, shows a great preponderance of State banks in number and deposits and an approach to equality in capital.† The Central and Mountain States and Territories, with their extraordinary differences of economic condition, have placed the greater part of their

* See the table on page 6.

In this table the Middle States include Maryland and the District of Columbia; the West and North-west, the States from Ohio to Iowa and Minnesota; the South and South-west, the Atlantic and the Gulf States from Virginia to Texas, with West Virginia, Arkansas, Kentucky, and Tennessee; the Missouri River group is Missouri, Kansas, Nebraska, and the Dakotas; the Pacific States are Nevada, California, Oregon, and Washington; the Central and Mountain group is Colorado, Idaho, Montana, Wyoming, Utah, New Mexico, Arizona, Oklahoma, and the Indian Territory.

† It should be noted here that in the Comptroller's returns for Kentucky, Kansas, Nebraska, and Oklahoma, the figures for State banks include private as well as incorporated banks. The figures given in the Appendix, pp 105-109, show that of the Kansas banks returned 109 are private, and of those in Nebraska 81, mostly of small capital in each case.

DISTRIBUTION OF BANKS, NATIONAL AND STATE.

[Compiled from the *Report of the Comptroller of the Currency for 1896*: the national banks for October 31, 1896 (p. 513); the State banks for various dates, chiefly in 1896 (p. 696). Dollars are given in millions and tenths of millions.]

	NATIONAL BANKS.				STATE BANKS.		
	Number.	Capital.	Circulation.	Deposits.	Number.	Capital.	Deposits.
New England . . .	589	\$161.3	\$63.9	\$254.2	14	\$3.2	\$5.8
Middle States . . .	950	198.3	86.4	719.6	332	42.9	242.9
West and North-west	995	151.4	45.	348.6	985	59.2	202.8
	2,534	511.	195.3	1,322.4	1,331	105.3	451.5
South and South-west	557	70.5	21.7	123.4	625	49.4	82.8
Missouri River . . .	357	44.3	9.4	75.9	1,469	39.2	99.4
	914	114.8	31.1	199.3	2,064	88.6	182.2
Central and Mountain	126	15.8	4.1	45.7	203	4.2	6.9
Pacific	105	16.6	4.	30.2	80	4.2	55.1
	231	32.4	8.1	75.9	283	46.2	62.
	3,679	658.2	234.5	1,597.6	3,768	240.1	655.7

small banking capital under the national system; and, finally, the Pacific States show a great preponderance of State banking, which upon examination is found to be due to the little use made of national banks by California.

It is clear that the inequalities thus briefly recapitulated rest upon something more than mere differences in population, wealth, and general activity. Those differences would lead us to expect much disproportion in the use of banks in general; but it is plain that, in addition to this, the comparative attractions of national banking with the right of issue, and of State banking without it, are differently estimated in different States and sections. This appears still more clearly when a comparison is made between different parts of the same section. Thus, in the large Western group, the four newer States—Michigan, Wisconsin, Iowa, and Minnesota—have \$36,000,000 of State bank capital to \$52,000,000 of national, in this respect approximating the condition of sparsely settled agricultural States in other sections. In the South, of the most important banking States, the Virginias and Kentucky have \$32,000,000 of State bank capital to \$21,000,000 of national. In general, the rule holds that the older, richer, or more densely populated States, with varied industries, find it easier to use the national system than the more thinly settled communities, poor in capital and carrying on industries of slow return. Even such an apparent exception as that of Texas, where only the national system appears to be used, proves the rule; for Texas, since 1876, has forbidden by her constitution the establishment of State banks, and any competition with national banks must there be carried on by private bankers.

It is beyond dispute that one of the most serious difficulties in the use of the national system in the newer or poorer communities is the requirement of an investment in United States bonds, locking up banking capital in a non-banking security, returning less than 3 per cent. to the

holder. In the older States, with abundance of capital and low rates of profit, this requirement has less importance; but in States where the conditions are reversed it is a heavy block in the way of the national system and its possible usefulness. Especially does the bond deposit block the way in any section where there is a need of banks of relatively small capital; for, as the minimum holding of bonds is one-fourth of the capital for banks of \$150,000 or under, and \$50,000 for larger banks of whatever size, it bears most heavily in proportion upon the small capitals. The comparative pressure of this requirement in different sections in October, 1896, is shown by the Comptroller of the Currency,* in a table from which the following statement is made up:—

	<i>Bonds held for circulation.</i>	<i>Minimum required.</i>	<i>Percentage of excess.</i>
New England	65.4	21.6	.67
Middle States	87.9	28.9	.67
West and North-west	45.6	24.9	.45
South and South-west	21.3	14.2	.33
Missouri River	9.2	7.1	.23
Central and Mountain	3.9	2.9	.29
Pacific	3.9	3.	.24
	<hr/> 237.2	<hr/> 102.6	

The reluctance with which the investment in bonds is made by small banks in the agricultural States is also shown with great distinctness by the case of Texas, where vigorous growth calls for extended banking, but only national banks can obtain charters. Of the 207 national banks in Texas, 88 are banks of \$50,000 capital, of which 86 have the exact minimum of bonds, 1 a nominal excess, and 1 a circulation equal to its capital. Of the 76 banks above \$50,000 and not over \$100,000, 63 have only the exact minimum, 7 only a nominal excess, and 6 have together \$182,250 above the minimum. Of the 43 banks having capitals above \$100,000, 36 have the exact mini-

* Report for 1896, p. 552.

mum of bonds, 8 have only a nominal excess, and 4 have together \$208,000 in excess of the requirement. For the whole \$20,920,000 of national bank capital in Texas, the bonds held for circulation above the legally possible minimum is but \$434,700. The inference from these figures is irresistible that banks in Texas cannot afford to invest at the low rate of interest yielded by United States bonds, and the presumption is strong that the increase of small banks is hindered and the capital forced into other channels by the bond requirement. Nebraska is also a strong case of the same kind, with the difference that Nebraska seeks her relief by means of incorporated State banks. The 118 national banks in Nebraska, having an aggregate capital of \$10,975,000, hold only \$368,650 of bonds in excess of the required amount; and \$330,000 of this excess is held by the large banks in the cities of Lincoln and Omaha. Out of 72 banks of \$50,000 capital, only 3 hold bonds exceeding the minimum by so much as \$1,000, and 64 hold no excess whatever. Similar illustrations of the working of the bond requirement may be found in many other States.

Of the objects to be gained from the deposit of bonds,—security for the notes and the creation of a market for bonds,—the former alone now has any value. Against the complete attainment of this object, which must be admitted, have to be set the facts that, as the government credit rises, the inducement to take out circulation weakens, so that the strength of the security tends to pinch the issue out of existence, and that the necessity of giving this particular kind of security produces the maximum of discouragement in sections where the need of banking facilities is strongly felt. The propositions to permit notes to be issued to the par of the bonds, instead of the 90 per cent. so far allowed, and to moderate or withdraw the 1 per cent. tax on circulation, are offered as palliatives for an acknowledged evil; but they do not strike at the cause,

nor, as will be seen, can they have any effect upon some of the more serious difficulties of the system. The root of the trouble is, after all, the necessity for taking a relatively large part of the capital of a bank out of the proper business of banking, and investing it elsewhere, when all that the bank can do by means of its capital and credit combined is needed for the accommodation of its customers. A complete remedy would have to start therefore, as was proposed by the American Bankers' Association in 1894,* in the well-known "Baltimore Plan," with the abolition of the bond deposit and the restoration of the note to its natural relation, as an exercise of credit in the business of banking. If to this were added provisions for the security of the note-holder by a first lien on the assets of the bank, and, as was also proposed in the Baltimore Plan, by a guarantee or safety fund supported by the contributions of the issuing banks, both reason and experience show that the strength of the note would be ample. Some other parts of the present system would no doubt need revision. Provision for more thorough inspection than is possible with the present staff, more frequent publication of accounts, and strengthening of the stockholder's liability, not in its nominal extent, but in its binding effect,† are changes already needed, which would then be seen to be imperative.

Amended by resting the issues of national banks upon their assets, where the business community are willing to let the \$1,600,000,000 of deposits rest, the system would be freed from one of the burdens which hinder its progress in the South and West. It would still find its

* For the details of the "Baltimore Plan" see White's *Money and Banking*, p. 458; *Journal of Political Economy*, December, 1894, p. 101.

† Prior to 1880 only about 35 per cent. of assessments upon stockholders of insolvent banks was actually collected; and in the finished cases since 1880, reported in the Comptroller's *Report* for 1896 (Table No. 76), it appears that the collections averaged only 52 per cent.

growth seriously hampered in sparsely settled districts everywhere, by the inability of a small community either to provide the capital or to supply the business for banks of the size required by the present law. On this subject a flood of light is thrown by Mr. Thornton Cooke, in a paper printed in the Appendix, showing the distribution of small banks in Missouri, Kansas, Nebraska, and the Dakotas. In these States the minimum capital required for State banks is \$10,000 in Missouri and \$5,000 in the four other States. Whatever this minuteness of capital may show as to the prudence of the legislation, it proves that in this important block of States the need of diffusion is keenly felt; and the same inference is to be drawn from the minimum of \$15,000 required in Michigan and \$10,000 in Minnesota. In the five States dealt with by Mr. Cooke an extraordinary development has taken place. Of 1,247 State banks covered by the latest official returns and excluding private banks, 1,158 are not beyond the \$50,000 line of capital, 451 are not beyond the line of \$10,000, and 112 have capitals not exceeding \$5,000. The tables make it plain that in these States, as a whole, there has been a strong movement to provide for needs not now covered by the national system. There is a long list of other States in which, upon examination, we should find proof of demands not satisfied by the national system, but met imperfectly by State banks and by the great number of private banks, of whose operations there is no record even approximately complete. In every other important banking country such a demonstrated need as this for diffused but sound banking would be answered by the establishment of branches or agencies of banks of larger capital. This method is not unknown in the United States, although for various reasons its application for many years past has been confined to a few States and has been on a limited scale. That it is less applicable or hopeful here than in all the other English-speaking

countries, or that it needs anything more than proper encouragement for its wide introduction, at least in sections like the South and West, it is hard to believe. The change required in the present law would be slight. If no use were made of the liberty to establish branches, the national system would simply stand as at present, if not improved, at least not impaired ; and, if use were made of the liberty, one of the two barriers which bar the access of national banks to an important field would have ceased to block the way.*

It has also been proposed, as a partial remedy for the imperfect distribution of banking under the national system, to reduce the minimum required capital to \$25,000, as it stands in the law of New York and of several other States.† This proposition, however, is open to some serious objections. It plainly does not go far enough to reach the seat of a great part of the evil. Taking for illustration the case of the Missouri and Dakota group already referred to, it appears from Mr. Cooke's tables that little over one-third of the State banks in that group have capitals above \$20,000. The fact appears to be that banks of \$25,000 capital would be almost as completely beyond the means of a majority of the small village centres in sparsely settled districts as banks of \$50,000 are now. But, even if such a reduction of required capital were enough to lead to an important extension of the national system, it is also a serious question whether on other grounds this would not be a move in the wrong direction. As national banks multiply in number, the problem of insuring sound management by effective supervision becomes grave. With not far from thirty-seven hundred banks already in operation, the United States evidently have in hand a task such as no government ever before

* The present Comptroller of Currency has urged the introduction of the branch system in his *Report* for 1896, p. 102 ; and the same ground was taken by Secretary Carlisle, *Finance Report*, 1895, p. lxxiv.

† For this also see *Report of the Comptroller of the Currency*, 1896, p. 102.

undertook; and the difficulties of this task would increase with the further pulverization of capital now suggested. The records of failures show that even in large banks the close attention of directors is not always easily had; but with banks of the smallest class in small villages, not only is there increased difficulty in making it worth the while of directors to give the requisite attention and thought to what is, after all, a matter of but trifling importance to any one individual, but there is also the often experienced embarrassment in finding among the business men of a village the material for making up a competent board. The best promise of good management is afforded by a bank with an immediate constituency large enough to supply an ample choice of men, and with a capital large enough to secure the pressure of a full sense of responsibility, and to demand a reasonable share of time and care from an unpaid body of men. In short, any change in capital should be in the direction of consolidation rather than subdivision. The smallest class of national banks now in existence should shrink, and the extension of the system should be effected by banks of more considerable capital, if we are to move towards the most efficient and safe organization. As for the suggestion that such a movement would mean diminished competition and the "concentration of the money power," a system of thirty-seven hundred members would afford ample scope for healthy consolidation long before the danger point could come into view. As for any risk of monopoly, if the power of establishing branches were restricted within State lines, every State would be likely to find within its borders sufficient competition among its own banks to give its people the full benefit of diffused accommodation, free from external control or internal combination.

So far our discussion has turned chiefly upon the present inability of the national banking system to develop bank-

ing in accordance with pressing needs of important sections of the country. The further objection that the system is not so constituted as to supply an elastic currency points to a defect in the working of the bank circulation in every section. This objection is indisputable, if we give to the word "elasticity" the meaning usually given to it in banking discussions. If by elasticity we are to understand nothing more than mere capacity for growth under favoring conditions, or variability, no doubt the bank circulation has varied and has had its periods of growth. It rose rapidly in its earlier period, when the investment in bonds yielded a high return; it ran down for a long series of years as the return upon bonds declined; and it rose again after the revulsion of 1893, when with the decline of bonds the return upon them advanced. But the elasticity of a currency is understood to mean something quite different from this tendency to vary over long periods. It means responsiveness to present increase or diminution of demand,—the power of adaptation to the needs of the month, the week, or the day, whether rising or falling. A glance at the figures for any series of years, or for any period of marked change in affairs, shows that the national bank circulation has never had this quality. How should it be elastic? Elasticity implies the operation of counter forces, in a currency as well as in a steel spring. That a currency may be responsive to demand, it is necessary that the forces, tending respectively to expand or to restrict, should be forces at work in the daily business of the bank, where it is brought into contact with the community by the stream of loans, deposits, and payments. But under the national system at present the motives for extending issues are completely separated from real banking considerations, and such tendencies for the return of notes as exist are equally foreign to the relations between the issuing bank and that portion of the public which it serves.

The failure of the national system to provide for a return flow of notes by some effective plan of redemption is no doubt due to the circumstances under which the national bank acts were passed. Looking to a distant future, the acts contemplated an ultimate return to specie payment, and some of their provisions were shaped accordingly. But, after all, Congress was not greatly interested in any present requirement of redemption, when, so far as could be seen, the redemption of a note must for years mean no more than its exchange for another piece of paper, itself irredeemable. To tie the bank circulation to the public debt, and thus to secure for it as good a chance of ultimate solvency as a promise by the government could then have, and to give the bank paper universal credit, were immediately attainable results, beyond which there was not felt to be much necessity for looking. The act of 1863 accordingly made no provision for the ordinary redemption of bank-notes anywhere except at the counter of the bank itself; and the chance of presentation there was obviously so slight, that Mr. Sherman cheerfully assured the Senate that "these notes, all being the same," so far from having a pitiful life of thirty or sixty days, "may have an indefinite circulation, and the average may extend to years."* It was clearly the expectation that the notes, when once set afloat, would drift on the ocean of paper as long as their material could hold together. The amended act of 1864 added the requirement that every bank outside of the redemption cities should redeem its notes through some bank in one of those cities, and that all banks in other redemption cities should redeem their notes through banks in the city of New York; but, in the absence of any motive for demanding the redemption of notes which every holder, whether a bank or an individual, could use in his own payments, these provi-

* *Congressional Globe*, February 10, 1863, p. 843. Mr. Baker of New York, in the House, insisted upon the need of central redemption. *Ibid.*, February 20, p. 1141.

sions served only as a reason for allowing banks to reckon as a part of their reserve the funds deposited by them with banks acting as their redeeming agents.

This inadequate arrangement did not satisfy the conservative banking opinion of the country; and in 1865 and 1866 an important movement for establishing assorting houses in the chief financial centres, with central redemption, was organized in New York, Boston, and Philadelphia, with the approval of the Secretary of the Treasury and the Comptroller of the Currency.* The elements of opposition, however, were too strong. The project lost its strength, and died; and the opportunity was lost. The national bank system grew up with an apparatus of redemption which did everything but redeem; and no change was made until 1874, when the function of redemption was transferred to the Treasury, and banks were even forbidden by law to redeem anywhere else, except at their own counters. Thus we have to-day a system of so-called redemption, which no doubt removes from circulation notes which for sanitary reasons, or from wear and tear, are unfit for further use, and enables banks which are overloaded with bank-notes at any season to convert them into greenbacks; but, plainly, the redemption thus carried on has little more than an accidental connection with the financial condition of any issuing bank. A large amount of notes may be passing through the Redemption Bureau; but the National Bank of X has no reason to look for any unusual return of its notes, however extreme its expansion may be, for the holder of its notes, whatever the amount of its obligations, will sooner use them in payments than waste time by sending them to the Treasury. This is not a kind of redemption which can possibly make the bank circulation re-

* For the action of the banks engaged in this movement, and for Secretary McCulloch's part in it, see *Banker's Magazine*, 1865-66, pp. 193, 401, 415. For the views of the Comptroller of the Currency, *Report*, 1865 (for Mr. Clarke's) and (for Mr. Hurlburd's) 1866 to 1870.

sponsive to the demands of business, whatever else it may accomplish.

The singular futility of all this part of our legislation is no doubt closely connected with the ideas as to the meaning of note redemption in general, which have grown up in connection with the greenbacks. Even before the act of 1878 ordered the reissue of the redeemed greenbacks, the original idea of redemption as the fulfilment and ending of a contract had been obscured. That, as a matter of legal interpretation, a note "retired and cancelled" had been paid, and that any new issue must be a new debt, requiring clear legal authority for incurring it, had been disputed for more than ten years,* until something more than the mere interpretation of a statute had come into the question. From 1866 to 1878 there is shown in the debates and the acts of Congress a progressive weakening of the force assigned to the term "redemption," and the growth of an opinion that everything needful is accomplished, if the opportunity for an exchange of one kind of currency for another is somewhere held open.

But is it enough that every holder of government or bank notes should understand that gold can always be had for the paper at the Treasury or the bank? Especially as regards bank-notes, can redemption do its work if it is merely a passive arrangement for possible payment, in case anybody thinks it worth while to call for it, and not an active system of prompt presentation? At the bottom of much that is said and written on this subject there would seem to be an impression that to give the public

* In January, 1868, Mr. Edmunds stated in the Senate his opinion that the notes "retired and cancelled" under the act of 1866 could be reissued, and moved an amendment to a pending bill to prevent this. Mr. Sherman objected that reissue was illegal and further legislation on the point needless, and Mr. Edmunds's amendment was lost. *Congressional Globe*, January 10, 1868, pp. 435, 529. Six years later \$26,000,000 of notes once "retired and cancelled" were reissued.

convincing assurance of convertibility is the only object to be provided for. But the redemption of a currency has a bearing much broader than this. The exchange of notes for specie on any large scale is called for in most cases because the trade relations of the country or the section concerned are such as to make specie for the time its cheapest export. This state of things may be the result of deplorable misfortune or of equally deplorable folly; but in either case it is the misfortune or the folly that is to be deplored, and not the process by which we pay in the easiest way the debts which have been created. The payment is, after all, a curative process, by which our currency seeks the condition of equilibrium with our real ability to hold money, as the first step towards sound strength; and it is for the general interest that the movement of specie should be easy, and that the payment of our debts, in this form as well as any other, should be prompt.

Moreover, whether we look at the government issue or at that of the banks, it is important that the natural effect of a depletion of our currency by specie export should not, under ordinary circumstances, be thwarted or warded off. In the one case, for the government to undertake, by the reissue of its notes, to keep up the domestic currency in the face of a movement for redemption and specie export, is to make that currency, so far as may be possible, insensitive to the influences which tend to its final replenishment. Mr. Sherman perhaps had a vision of this truth when he recommended "that by law the resumption fund be specifically defined and set apart for the redemption of United States notes, and that the notes redeemed shall only be issued in exchange for or purchase of coin or bullion."* No doubt such an arrangement, so long as Congress permitted its existence, would at any rate have insured the close reciprocal relation which any

* *Finance Report, 1870*, p. x.

effective redemption of greenbacks should have with the active currency, and would have made the position of the Treasury defensible without the alternation of panic and loan which has been witnessed since 1893. In the other case, it is almost equally important that, so far as an export movement of specie draws from the bank-note circulation, it should draw as directly as possible from the particular banks which are in a state of relative expansion. The drain of specie is presumably not the consequence of any equally distributed imprudence or any level stroke of misfortune ; and its effect should fall, both by the rule of right and by that of expediency, upon some more heavily than upon others. This can only be secured by providing for an easy, automatic return of notes, so that expanded liability shall, so far as is humanly possible, be followed by increased demand for payment.

With the imperfect conception of redemption in general, on which our law proceeds, it is not surprising that the national bank-note, when once issued, should be regarded as a liability of indefinite date, differing from other bank liabilities in this, that the issuing bank hardly need trouble itself as to its discharge. The fact that it has thus become something not far different from a permanent obligation, is no doubt one of the grounds for the idea of unjust privilege which so many of our people connect with the national bank system. It is also singularly at variance with the principle of having a wholesome restraint upon the operations of each bank by itself, which governs our treatment of other demand liabilities. Provision for the systematic return of notes by other banks, like the daily collection of checks, is so contrary to our present established habits of thought that it seems abnormal, inconsistent with full credit, and useless, if not hostile. But, not to dwell upon other considerations, it appears too plain to require demonstration that a regular

return flow of notes is the necessary condition of the elasticity which is now commonly demanded for our bank currency. Elasticity cannot be secured without the operation of restrictive force upon an outstanding circulation: restrictive force cannot operate there, except through the agency of the holders of the notes; and it can only operate through them by virtue of some legal provision or of some convention or practice having equivalent force. Of legal provisions for this end a striking example is supplied by the law of Massachusetts, which from 1843 forbade any bank to pay out any notes except its own, and thus made it necessary that notes received on deposit or in payments should be sent to the issuing banks for redemption. Of a practice equivalent in effect to this, there is the equally striking case of the Canadian banks, which, without any requirement of law, but simply as competitors for business, "demand prompt and daily redemption of all the notes of other banks that have come in."* But our system presents nothing analogous to these devices for making the self-interest of the banks the restrictive force needed to secure elasticity of issue.† We appear to rely vaguely upon some supposed slowly acting tendency of the public to free itself by some means of a currency, if felt to be excessive; but we set no machinery in motion for that purpose, and do not make it for the interest of anybody in particular to do that which on gen-

* Breckinridge states that the average life of a bank-note in Canada is found to be about four weeks. *Canadian Banking System*, p. 407.

† Breckinridge gives (*ibid.*, p. 408) a diagram showing the monthly variation of the issues of the Canadian banks for fifteen years. The minimum is usually reached in June, but sometimes in August, and one year in September; and the maximum is always near the beginning of November. From the lowest point to the highest, the average annual rise, which disappears in January, is about 20 per cent., varying in the last dozen years from under 13 per cent. in 1882 to 24 per cent. in 1888. There is also a small rise in the spring, nearly always at the beginning of April, but occasionally a month earlier, trifling in amount, but singularly constant, and showing a remarkably close correspondence between the notes in circulation and some regularly recurring condition of business.

eral grounds may be desirable for all. Even so radical a scheme of reform as the "Baltimore Plan" contents itself with the existing provisions for redemption.

It is obvious that the practical difficulties of redemption have multiplied with the growth of our system. Methods easily established at the start would be difficult of introduction into a mass of nearly thirty-seven hundred national banks. Still, unless we are prepared to surrender the idea of true elasticity, the means must finally be devised for making the bank-note as well as the check present itself systematically and promptly for payment; and it is highly improbable that this can be done without restricting the right of national banks to pay out other notes than their own. It is conceivable, although unlikely, that competition might set in among the banks of a single State, and prompt them to refuse of their own accord to circulate each other's notes, although a result like this—easy to understand in a system of only thirty-nine banks, like the Canadian—would be hard to reach in States which count their national banks by hundreds. But outside of its own State, and probably within it, the circulation of a bank-note would have to end by law with its receipt in payment or on deposit by a national bank, and its return for redemption would have to follow.

Probably the mere administrative difficulties in the way of an effective system of real general redemption would not be found to be so serious as they might appear at first blush. For the most part the reserve cities, formerly known as redemption cities, would be the natural centres of redemption, at which the banks would clear their notes with each other as they now clear their checks in a clearing-house; and the two operations would be likely to be carried on under the same roof. The reserve cities would necessarily exchange with each other, possibly at a common centre; and thus, the country being districted, presumably with reference to the natural course of commer-

cial payments, notes paid in or deposited at any point would find their way back to the issuing bank, through the same channels in which the streams of other liabilities flow back upon the debtor banks, and without more difficulty. No change in the present uniformity of design of the national bank-notes would be required. Distinctive marks to determine the redemption district in which a note belongs, and possibly its State also, could be as easily stamped upon it as the charter number of the bank is now, and would be all that is required for instant recognition. Moreover, the labor of assorting the notes, with a redemption system once fairly in operation, is not to be inferred from the present condition of the bank circulation. We now see a confused mass of notes on which no regularly acting agency of this sort has been at work; but, with an established compulsory return of notes, the bank circulation of every part of the country would tend to be that of the local banks. Notes might still stray widely, for uniformity of system and design would give them the same ease of movement among individuals as at present; but the proportion thus carried to a distance would not be great, and their wanderings would not be of long duration. The whole circulation would probably be so far localized that the chief labor in every redemption centre would be to assort the notes issued in its own district and cleared by the local banks; and this would simplify and lighten a task which, however formidable, would not be too great to be undertaken in view of the object to be secured.

Returning now to more general considerations, the limitation of the field of circulation to be expected from a system of actual redemption deserves a little further notice. Existing banks of relatively large circulation might naturally dislike exclusion from the wide area in which their issues now find their chance of long life. So far as their gain from circulation comes from the supply

of currency for use in remote sections or those ill provided with banking facilities, they could not be expected to welcome a proposition to confine them in effect to their home districts. But, besides the general equity of an arrangement which would call upon any bank to find its chief field for note issue in the community with which it has its closest relations, it is of special importance for the better distribution of banking in the United States that the opportunity as well as the legal right of note issue should be more widely extended. The sections which now find the national system insufficient are those in which the sparseness of population and other industrial conditions invite the use of bank-notes and limit the use of bank credit in other forms. The local banks require the support to be obtained from circulation, and it is desirable as well as equitable that they should be able to rely upon the support afforded in their own neighborhood. A sense that the home field belongs first to the home banks has shown itself in the demand for the relief of State banks by the repeal of the 10 per cent. tax; and this feeling is too well grounded to be disregarded with safety. Certainly, if the national system is to be extended and popularized, it will be necessary that in this respect the local banks should be made as far as possible the natural sources of supply for their own constituencies.

Whether the sections which are now deficient in banks of issue would find their currency in actual use greatly increased under the changed conditions here suggested may be doubted. They are, as a rule, in debt,—rich in possibilities, but poor in actual accumulation. National banking with general redemption might, at any rate, supply them as well as State banking, if the latter were to be on the specie basis; but could they under any system find their currency plentiful if it were kept at its specie value? It is hard to see how the regular course of payments, which now takes to the commercial

centres such coin, legal tender, or bank-notes as they acquire, could fail to restrict their note circulation by drawing from their banks their cash for remittance.* This hardship is the natural consequence of economic conditions which for the present keep their demands for certain commodities constantly in advance of their means of payment. Nevertheless, good policy and fair dealing alike require that whatever opportunity may in fact exist for affording either the present or an increased supply of currency should be enjoyed first by banks upon the spot. If the lack of active circulation remains as at present, the nature of the difficulty will at least be clearer than it is now, and will be obviously free from the present appearance of unjust discrimination. Moreover, to give to local banks all possible encouragement for natural development, by enabling them to use as far as safety will allow the power of issue, notoriously needed in immature communities more than in the mature, is the readiest way to promote the growth of industry and wealth, which will finally raise the people to the condition where their need of goods for use will no longer keep them bare of cash.

*At a hearing before the House Committee on Banking and Currency, December 19, 1896, Mr. W. L. Royall of Richmond, Virginia, presented his views:—

“Mr. ROYALL. I say that, if you put out notes in a backwoods community that are good at par in New York, those notes will leave the backwoods community, and go to New York. . . .

“Mr. JOHNSON. Must not those notes suffer a discount when the holders of them want to go outside of their own community to make purchases with that money in their pockets?

“Mr. ROYALL. No, sir: those notes are payable in coin on demand. They go to the bank, and say, ‘Give me gold for these notes’; and they get gold.”

And again, favoring the issue of notes by State banks,—

“Mr. ROYALL. If [a bank] issues currency at all, it is for the convenience of the people who live around it. Yet, if a country bank issues currency backed by the government, that currency will leave it and the people who really need it, and go to a commercial centre, where there is no legitimate need for it.”

Mr. Royall's cure for the difficulty appeared to be an issue of notes, not too good, but just good enough to be used at home,— a difficult medium to strike.

At present the condition of portions of the South and West presents a kind of deadlock. Their people are poor in all but natural resources. They remain poor because there is little "money in circulation," and there is little "money in circulation" because they are poor. With a short succession of bad years they are in something like destitution. With a bountiful harvest they gain a little ground, and hope rises. To encourage the proper use of credit, and of credit in the form most natural to their condition, although a slow remedy, appears to be not only a hopeful one, but also the only one now within reach of the national government.

To recapitulate the points which appear to be of chief importance in the current discussion:—

The great objects to be secured are: to enable sections of country, now excluded from the advantages of the national banking system, altogether or in part, to make use of this system and of the right of issue under it, as their needs may require; and to make the issues of the national banks elastic as well as safe.

The natural means for securing these results are: to abandon the present system of bond deposit as security for notes, to substitute a first lien in favor of note-holders upon all assets and upon the stockholders' liability, and to create a guarantee fund supported by levy upon all banks in proportion to their circulation; to strengthen the system, by provision for closer inspection and by more frequent publication of accounts; to authorize and encourage the introduction of the branch system, at the same time raising the line of minimum capital, say, to \$200,000; and to organize a system of central redemption, enforced by restriction upon the right of banks to pay out the notes of other banks.

The practical and political difficulties, at present hindering any reform, need no comment. Factions in Con-

gress, apathy produced by a new period of prosperity, popular financial delusion, and differences of opinion among the friends of reform may raise formidable obstacles in the way even of partial measures, and still more in the way of any comprehensive plan, for the removal of generally acknowledged evils. But, whatever steps it may be possible to take, little will be gained if they do not turn plainly towards the objects above stated, and proceed courageously and unequivocally upon the general lines which the present writer, following many others, has reviewed in these pages.

CHARLES F. DUNBAR.

CHARITY AND PROGRESS.*

MORE than two thousand years ago Plato warned his countrymen, in strangely modern phrase, against the physical, moral, and political degradation in store for any nation which perpetuated the unfit and allowed its citizens to breed from weak and enervated stock. So eager was he to shock his contemporaries into a realization of the dangers of degeneration and the necessity of artificial selection, that he sketched for them the startling outlines of an imaginary Republic, in which no considerations of property, no bonds of family life, no sentiment of pity, was allowed to stand in the way of that elimination of weakness and that perfection of the race which he conceived to be the indispensable basis of progressive civilization.

To-day evolutionist philosophers are dinging the same message in our ears. Behold, they say, the paradox of progress! Civilization destroys itself, puts the knife to its own throat, perishes by its own hand, or rather dies miserably of the slow poison of its own virtues. For the growth of civilization is but a name for the growth of sympathy. The fruits of sympathy are philanthropy, charity, sanitation, medical science, all that makes against the sufferings of our race. These, again, are but methods of protecting the weak, perpetuating the unfit, reversing the law of progress, destroying civilization and sympathy itself. Like Plato of old, the evolutionists complain loudly that man sees clearly enough what the law of progress is for the brute creation, but chooses to regard himself as an exception. Like him, they insist that there is absolutely no ground for this infatuation and mystery

*An address delivered at The National Conference of Unitarian and Other Christian Churches, Saratoga, New York, September, 1897.

with which man affects to surround the evolution of his own species. The same law applies to him as to the beasts that perish,—the simple, inevitable, universal law of selection and survival which biology has already formulated for other animals. Selection, however, implies two things: it implies something selected, and no less surely something rejected, left behind to perish as unfit. Hence, as a recent English writer reiterates, in a *reductio ad absurdum* which seems to render refutation superfluous, there can be no real progress for a society which is not improvident enough to multiply more rapidly than subsistence and environment will warrant. There is nothing but decay in store for any society which is not crowding unfit members to the wall, which has not its "submerged tenth" sinking inevitably beneath the waves of poverty and competition. Improvidence, weakness, degradation, and suffering are with you always, because, forsooth, they are the signs of health, the growing-pains of progress.

How, then, we are asked, can modern society escape speedy degeneration? Philanthropy is present in the world on a new and gigantic scale. Every day civilization finds it harder to see the weak pushed to the wall. Philanthropy deals a twofold blow at progress. It not only perpetuates the weak: the essence of it is self-sacrifice of the strong to the weak. Thus the law of progress is reversed. Even science has joined the forces of degeneration. The deadly microbes of fever and contagious disease, which have been such efficient allies in the work of rejecting the weak, are being banished from the earth. All that the best intellect, the most patient ingenuity, the most unselfish devotion, can devise, is being used to preserve the weak, and enable him to transmit his weakness to future generations. Already the fatal consequences are but too plainly visible on every hand. Insane asylums, homes for defectives, prisons, reformatories, hospitals, shelters, wood-yards, soup depots, the whole

directory full of charitable activities of every sort, testify that the process of degeneration is well under way. As for remedies, the pessimistic aver there is no remedy, and abandon themselves to the luxury of disordered fancies and delirious exaggerations of impending ills. The optimistic join in Plato's plea for conscious effort to improve the race by breeding from the best stock, and by educating public opinion to the exercise of an enlightened, scientific sympathy, which shall refrain from evil-doing. For the unfit must either cease to be produced or cease to reproduce.

While this first group of philosophers are thus wringing their hands over the pathetic dilemma of progress, and lamenting that the sympathy which man has cherished in his bosom has warmed into a viper with a deadly sting, we are suddenly relieved to hear another confident and dogmatic voice from the evolutionary ranks, bidding them be of good cheer, for they are quite mistaken in their diagnosis of the case. Let no one worry over an illusory dilemma, or the alleged discomfiture of natural selection by sympathy and altruism. Natural selection is quite able to take care of itself. Neither philanthropy nor any other creature can interfere with the cosmic determinism which has ordained the law. Far from being an enemy, philanthropy is but the handmaid of selection, in disguise. Or, to be exact, philanthropy is the second handmaid; for religion is the first. Those have been deceived who thought they saw in religion and her philanthropic offspring a palliation of the struggle for life, a tendency to mitigate the ruthless rejection of the weak, a humanizing of those processes of natural selection and survival of the strong which are popularly called competition, a gospel of love and fraternity which should replace the gospel of strife. Religion is merely a part of the machinery of rejection,—a useful variation, by virtue of which a religious group, or civilization, surpasses a non-religious or less religious group, or civilization. Be-

cause it mitigates the relentless struggle for life, do you ask? Quite the contrary. Because it makes possible a higher intensity of that struggle; because it enables the more religious society to bear the pains of rejection and extermination with greater fortitude; because it consoles the rejected of this world with the hope of happiness in the next; because it comforts the wounded and the dying with the anæsthetic of a future life, in which those who have lost father, mother, husband, children, lands, or wages, shall have them restored a hundred-fold; because it thus enables society to breed from the strongest, hardiest of its stock. Religion make the march of progress and the struggle for life less severe? Religion an enemy to natural selection? Nay, rather, it is religion which makes the forced march of modern progress possible. But for religious anæsthetics the rank and file of those who toil and suffer would be driven in desperation to join a socialistic mutiny, the march would be stopped, and some other more religious civilization would go to the front.

In like manner we are asked to believe that the second handmaid, philanthropy, only continues the good work by increasing the range and intensity of the struggle. The real significance of modern philanthropy is the gradual substitution of equality of opportunity for old inequalities based upon class distinctions, birth, and wealth. Philanthropy is the voluntary abdication of privilege, the willing self-sacrifice of those who have hitherto been doubly protected from the rigors of competitive rejection,—by the barriers of privilege, on the one hand, and by the disabilities of the masses, on the other. Instead of angels of deliverance and mercy, religion and philanthropy are but furies in disguise, drugging the senses with ultra-rational sanctions for an irrational struggle, and distributing among the poor the shining weapons of a more equal opportunity, in order that the fight may be fiercer and more universal, and the weaker, both of themselves and of their benefactors, sooner slain.

Therefore, instead of liberty, equality, and fraternity, write on the banners of progress this glorious motto, liberty, equality, and natural selection. Grieve not at this slight biologic emendation. Man would be less a part of the cosmic mystery and dispensation if it could be otherwise. For man as an individual, nature can care nothing. Like all other individuals, he must be mercilessly sacrificed to the interest of the abstraction called the species. The species and the social organism which develops it must be preserved at any cost, and the only law of development which nature recognizes is natural selection. In a word, progress is natural selection and rejection ; religion is the handmaid of natural selection ; philanthropy is the handmaid of religion. Know, therefore, ministers of philanthropy and religion, that you are co-workers together with Nature, with a big N, in the grawsome task of eliminating the unfit. The future offers you great possibilities of usefulness,— an ever-fiercer struggle for life, an ever-increasing religious and philanthropic organization, an ever-larger hospital corps, an ever-growing red cross division in the army of progress.

And so the fight goes merrily on, and some ministers of the gospel of peace and humanity of late have taken courage, because, forsooth, some sage assures them that no nation has prospered or can prosper without this religion, that there is no danger that with the progress of civilization religion will decay ; for religion is the ultra-rational sanction for a process of rejection which is as essential to progress as it is unjustifiable to the individual on any rational grounds. And they have even recommended this teaching as a cure for the scepticism of those of faltering faith among their flocks.

Such, then, are two of the conflicting accounts which men who speak as having the authority of science give of the function of philanthropy in progress. To one party it is the symptom of decay, the evidence that the dilemma

of progress has been reached, that the cycle of civilization is completing itself. Charity means survival of the unfit, sacrifice of the strong to the weak, the gradual deterioration of society. First, "from hour to hour we ripe and ripe"; and philanthropy is the over-ripe fruit of a decaying civilization. To the other party the growth of philanthropy but indicates the more rapid march of progress, the intenser struggle for life, the greater need of hospitals and nurses and chaplains to care for the wounded and the dying. The former makes religion and philanthropy the enemy of progress: the latter reconciles them by making progress not worth having.

Which is right? Neither. Yet truth lies between two falsehoods. The golden mean shades into the dark extremes. In a sense, therefore, we may truly say that both these pictures are true to philanthropy as it is, that neither of them is true of philanthropy as it ought to be. Sometimes we may rejoice that doctors disagree, especially if the diagnoses are very bad. It leaves us free to use our more optimistic common sense.

What, then, are some of the practical aspects of philanthropy which lend the color of truth to these diametrically opposing views? In the words of the subject you have formulated for me, what are some of the false methods which are hindrances to social betterment?

First, let us consider two conspicuous hindrances to progress with which the practical worker has constantly to deal, — lack of organization and excess of organization. Lack of organization means inefficiency, absence of co-operation, waste of individual effort. It leads to the survival of the unfit, the impostor, the hypocrite, the parasite, the helpless, the lazy, the pauper, the mean man. Excess of organization means rigidity, uniformity, routine, mechanical perfection, degenerating finally to automatic machine methods, which tend to produce the very evils they were

designed to cure. There is nothing strange or novel in this paradox. In politics we have already learned by bitter experience the difference between the legitimate organization and the so-called "machine." There is profound wisdom in the popular distinction between the two. Organization is the instrument of reform, the method of intelligent co-operation for public good. The "machine" is the weapon of corruption, the enemy of reform, the means of subverting the public welfare to unintelligent or selfish ends. Organization must often be perfected, strengthened, elaborated, to the end that the "machine" may be wrested from the enemy's hands, remodelled, and turned to useful work, or smashed. A large part of the cost and waste of progress is to be found in this struggle of the new organization with the old machine, in the reformation of existing agencies, in the destruction of what cannot be redeemed. This is the meaning of the word "reform." But, strange to say, just when the victory is won, the organization which has served its end so well, tends itself to become a machine; and the work of reform begins anew.

I cannot and need not pause here to pay tribute to the splendid work of Associated Charities, or other voluntary forms of charity organization in our own and other countries, or to urge the social suicide of failure to push forward in such work. I venture only in the brief time allotted me to assume the thankless rôle of critic, and suggest the dangers of excess. If I read the facts aright, the comparative student of philanthropic work and workers cannot fail to be impressed and depressed by the predominant importance which American charity organizers seem to attach to the elaboration of the great, automatic, imposture-detecting, charity-dispensing machinery. Charity organization cannot safely attempt to make charity a machine industry. It is the testimony of some of those who have had longest and most varied experience that

elaborate book-keeping, checks and counter-checks, become of less importance as the charity work becomes really earnest, efficient, personal. "If you really mean to take hold of a person and save him," said a well-known authority to me recently, "it isn't so much matter about the records of what he has or has not done in the past. I confess I often fail to look up my index till after I have embarked on the case. It is the hard, earnest, individual labor that counts; and, if that is really undertaken at all, the visitor in charge of the case is bound to get at the bottom facts better than any one else can." Not to keep books, to collect and dispense money, and to detect fraud, but to inspire citizens to become "visitors" and undertake this "hard, earnest, individual labor," is the function of organized charity. Not to replace, but to increase, individual effort is the aim.

An illustration of the allurements, the benefits, the possible dangers, of machine organization is, to be found in the "pool system," — the system by which all the recognized charities of a locality issue a joint appeal to all the subscribers, and then divide the proceeds on a prearranged scale. This is simplicity itself for the giver. One entry in his account book suffices for all, — Charity, 1897, fifty dollars. It is the "penny in the slot" machine applied. The poor you still have with you always, but the collector only once a year. What a relief! You need be charitable but once a year. By this annual or periodic benevolence you contribute to a pool of Bethesda whose healing waters shall be troubled to order whenever an unfortunate approaches the bank; to a reservoir of mercy whence benevolence shall be piped to every quarter of the city; to be on tap at high pressure in every institution, and ready to flow at the touch of the official hand. The perfection of organization, it works like a fire department or an ambulance corps. Now some such machinery as this is the ideal of certain enthusiasts. True, these are

only tendencies, not necessary evils. In the hands of earnest, vigilant, and devoted men and women, such labor-saving machinery might do admirable work. But beware of anything which seems to teach people that charity consists in distributing money, or distributing anything short of themselves.

There is a second set of mechanical dangers, even more insidious and alluring, and almost universal in charitable organization the world over,—the dangers of having as figure-heads and directors of charitable and philanthropic enterprises people who do not really direct. There is a certain kind of begging letter with which the world of notables is very familiar,—a letter asking a certain person of influence to become titular head of a certain society, and at the same time carefully explaining that the official duties will be absolutely nil or nominal. A man ought to feel insulted by such a request. Public opinion must be educated till those who accept office in charitable or philanthropic work accept the responsibilities of office with the same standards of faithfulness that apply to commercial positions of trust and responsibility. If charity is to enjoy self-respect and the respect of the community, it must at least be business-like; but, unfortunately, it must be confessed that the standard of directoral responsibility and intelligence in business affairs is very low. "How is it," said one of our great railway magnates to his confidential adviser, "that the president of yonder rival road always finds out our plans? How can we stop that leak?" "By making him one of your directors," was the cynical reply. None the less, the public must get over wanting to have big names conspicuous in places where the owners of the names are conspicuous by their absence. The influential citizen must be educated to forego the gratification of the sense of importance which figure-heading brings. The director of everything is probably the director of nothing. He is only an advertisement of the ma-

chine, and a misleading advertisement at that. He draws subscriptions ; and, when the day of reckoning comes, his reputation is often used to whitewash things that will not wash in any other way.

It is, therefore, a matter of congratulation that the wisest organizers have recognized these evils, and are turning their attention more and more towards preventive educational work : education and training of workers ; education of the general giving public ; education of congenital philanthropists with perennial crops of new schemes to be supported ; education, if possible, of law-makers and officials. To this end, literature, lecture courses, and other means of enlightenment and training must play a constantly increasing part in the organized philanthropy of the future. On the other hand, one of the most difficult and most important educational functions which an association can assume is that of habitual expert inquiry and investigation in regard to existing or proposed philanthropic agencies. As the programme of a voluntary unofficial organization, this work of inquiry and censorship is always beset with grave difficulties at the start. Such inquiries at first meet with persistent snubs from institutions and officials. Snubbing, however, has the good effect of making the inquirer careful, accurate, and correspondingly influential in the long run. Experience shows clearly that the opinion of such a body of candid experts gains greater and greater weight with the contributors upon whom the various organizations depend. An altruistic system of blackmail in the interests of virtue has something to commend it.

Such frank and fearless watchfulness and helpfulness is one of the great needs of every well-endowed community, and a need which increases with time. There is scarcely a community of any age and size in which there are not institutions which have outlived their usefulness, failed to do their duty, misappropriated their collections, turned

into machines, actually done harm, and to just that extent justified the evolutionary strictures which, I said, were partly true. Frank, fearless, constructive, and destructive criticism of official and unofficial charity by a body of men and women whose power is the power of intelligence, disinterestedness, accuracy, mutual confidence and support,—this alone can prevent institutions from outliving their usefulness, organizations from becoming machines, endowments and revenues from producing the unfit. This alone can prevent the sympathetic public from putting its faith and its money in wasteful and worthless enterprises which demoralize those who give and those who receive. It is this alone which could tell the bewildered subscriber whether he might safely contribute to such or such a philanthropic pool.

Think not that I exaggerate the necessity for such critical education. That were not an easy thing to do in these credulous days. The age of miracles is past, we are told; but not the age of believing in them. In plain English the public still likes to be philanthropically humbugged and gulled, still sets a premium on charlatanism. Who does not know that, if you come to the people with a scheme which may, under favorable circumstances, promise success of some moderate sort, they will have nothing to do with such a half-hearted affair? Hearts, minds, and purses shut with an audible snap. If, on the other hand, you come forward with some impossible scheme of universal regeneration, there is no end to the money and enthusiasm your plans may evoke. This is why, to the shame of many an intelligent community, scientific charity often receives such meagre and grudging support. This is the explanation of the extraordinary support to be obtained for sensational and extravagant enterprises in our day. It is just because of the audacity of their plans and pretensions. When you have the statistics of salvation and regeneration all before you; when you can be assured posi-

tively that five-and-twenty dollars is the average cost of saving a lost soul, of regenerating a fellow-being, of rescuing a brand from the eternal burning,— how can you refuse to redeem souls at such fabulously low figures? Such an arrangement has all the attraction of a bargain counter; and the modest pretensions of hard-working reformers, who do not deal in the market quotations of human souls, who promise no miraculously cheap bargains slightly damaged by fire, obviously do not attract the bargain-hunting world. Even those blind givers who delight in the titular patronage of good works of which they know next to nothing, who are in no danger of the sin of letting the right hand know what the left is doing, for the simple reason that they could not tell if they tried,— even these kindly and ostentatious souls sometimes object to being rescued from the clutches of visionaries and impostors by the detective work of charity experts. They find such frank undeceiving a sad contrast to the adulation of reckless or visionary or fraudulent promoters of seductive schemes for the alleged regeneration of mankind in general. Surely, the economics of moral redemption call for drastic educational propaganda, which shall teach people to encourage sound enterprise, and not to court failure and encourage charlatanism by expecting or demanding the impossible. Miracles, like cheap bargains, will be in the market as long as there is an active, paying demand for them. A philanthropic consumers' league, with a white list of deserving enterprises, would be good for those who give and those who receive.

There is a vast difference between the machinery of organization and the organization of a machine. It is to be admitted, also, that, whatever we may think of machines in general, most of us have pathetic confidence in the efficacy of some new and untried invention. I had a friend who was one of the most loving and lovable of men. His hand was always open to the needy, his

heart was a healing spring of sympathy, his ear was keenly sensitive to tales of woe. But when the too frequent impostor had been detected, when he knew that his soul had been harrowed by a lie, that the bread of the suffering had been stolen and pawned by a cheat, his wrath waxed hot. On one of these occasions he recommended to me a mechanical device for the detection of virtue, and charged me as a sociologist to propagate its use. It was called *The Touchstone of Virtue, or the Combined Work Test and Hydropathic Cure*. It was simplicity itself. It consisted of a deep covered vat, or tank, with appliances for turning on a definite supply of water. In the middle of the vat stood a hand pump, capable, when diligently exercised, of expelling the water as fast as it flowed in. On the wall was an illuminated Scripture motto,—“*He that will not work, neither shall he eat.*” The applicant for charity was first medically examined, to see if he were strong enough to work. He was then lowered into the vat, the cover was adjusted, the water turned on, and the patient left to pump out his own salvation. Two hours later the cover was removed; and the cook or the coroner notified, as the case might require.

Charity has not yet got beyond the need of some such tank or vat. It is an indispensable adjunct to the philanthropic pool of Bethesda, already described. In all earnestness I advocate its use. Hear, therefore, the interpretation of the parable.

The tank is a workhouse, run on a reformatory plan, with an indeterminate sentence and every known device for detecting germs of virtue and stimulating its growth,—to the end that the prisoner may be reformed and become fit to re-enter society and set free from the bonds of his own vices. The pump is the gospel of work, of opportunity, self-help, and temperance. There are two exits from these tanks. The one is called improvement, and

stands forever open. The other is death. The medical examination is the separation of the weak and incapable, that the utmost may be done for them in hospitals, homes for incurables, asylums, or retreats for feeble-minded. Within the walls of these tanks is no marrying or giving in marriage, or breeding of the unfit. They are the philanthropic monasteries and nunneries of the twentieth century,—that our maxim may be fulfilled, and the unfit either cease to be produced or cease to reproduce. And the life of the celibates within shall be better than their old life of liberty, which is thraldom to sin; for they are delivered from the mastery of their lower selves, their steps are turned towards the open door of improvement and the road of restoration. Within is no drunkenness, no licentious debauch, no trampling on the sacred right of the next generation to be well born. Before the gates of this reformatory, along the upward and the downward path, are the organizations of scientific charity, giving comfort, help, encouragement, and temporary refuge to the discouraged men and women who are on the downward road of degeneration to the tank or toiling on the upward way of restoration.

Thus shall the hereditary burden of pauperism, disease, and crime grow less, and not greater, from generation to generation. The tramp shall cease to be a burden, the unemployed shall be fewer in the land, and charity shall injure no one whom it tries to help. But the struggle for the higher and yet higher life will still go on. The relatively weaker and unfit will still need the self-sacrifice of the wisest and the gentlest helpfulness. The hospital, the reformatory, the machine, may not utterly cease from the land; for to human progress we happily can see no end, and there is no forwards without a backwards, no higher without a lower, no up without a down.

Thus is the real paradox solved, the sacrifice of the strong to the weak reconciled with progress, because

intelligent self-sacrifice of the strong to the weak makes the strong stronger and the weak more strong. To him that hath the capacity to receive shall be given the priceless boon of opportunity, and from him that hath not shall be taken away the power of degrading himself and society. The philanthropy of the future will be wise as the serpent and gentle as the dove. With these two emblems conspicuous upon its banners, the motto liberty, equality, fraternity, may safely float above the lower alternative standard of liberty, equality, and natural selection. Here lies the golden mean we sought. The riddle of philanthropy and progress is answered, the hydra-headed sphinx of evolution satisfied.

EDWARD CUMMINGS.

THE TARIFF ACT OF 1897.

THREE or four years ago nothing seemed more improbable than the enactment of a measure affirming once more the principle of all-embracing protection, and putting it in effect with a vigorous hand. After the passage of the tariff act of 1890—itself the outcome of a contest not settled by any decisive victory—the protectionist policy met with great and unquestionable reverses at the polls. The Congressional elections of 1890 brought a crushing defeat for the Republicans: the presidential election of 1892 resulted in another defeat even more decisive. By 1892 the issue, after two more years of debate, was clear; and the verdict seemed to be deliberate. The trial of high protection had not taken place under unfavorable conditions. There had been no industrial depression, no overt indications of impending ill-fortune. If under these fortunate conditions the Republican party was beaten by an overwhelming vote in the electoral college, the conclusion seemed to be warranted that the community had wearied of the demand for more and still more protection, and desired a return to a moderate customs policy.

Nor was there anything in the tariff legislation of 1894 which invited a reaction. The act of that year did no more than prune the protective duties. One single incisive change of wide effect was made,—the free admission of wool, and, as a necessary consequence, the remodelling of the duties on woollen goods. With this exception, the bill, even as first introduced in the House of Representatives, was by no means a radical measure; while, as finally passed after amendment by the Senate, it was regarded by the advocates of lower duties as an anxiously conservative one. That it failed to satisfy its chief promoters was made clear by the action of President Cleve-

land in permitting it to become law without his signature. Once it was enacted, the community heaved a sigh of relief, and dared to hope that from this quarter there would be for a space no further threat of uncertainty and disturbance.

If this reasonable expectation has now been disappointed, the explanation is to be found, not in any demonstrable change in public feeling, but in the kaleidoscopic overturn in the general political situation. *Presto, change* : the tariff is shoved aside as the party issue, and the currency takes its place. The stormy session of 1893, in which the silver purchase act of 1890 had been repealed, foreshadowed the coming overturn : the commercial crisis of 1893, and the years of depression which followed, completed it with surprising quickness. Ever since the demoralizing days of the excessive paper issues of the civil war, periods of depression have favored the growth of the party of cheap money. The free silver party, now the party of cheap money, found its hold strengthening in the South and West, and finally captured the Democratic organization. In the South, always the main seat of the political strength of the Democrats, the tariff question had for some time been holding its dominant place largely as a matter of tradition. The opposition to protection had been inherited from the political tenets of *ante-bellum* days, and the tariff issue was easily displaced by the new and burning question. The majority of the Democrats of the new generation were won to the free silver side ; the old leaders were contemptuously discarded ; the political centre of gravity suddenly shifted. The Democrats being pledged defiantly to one side, the Republicans had no choice but to take the other. Thus the election of 1896 turned directly on the question of the free coinage of silver. The popular verdict was clear on that question, and on that only.

It was not to be expected, however, that the Republican

party would desert its old faith, or suddenly turn with whole and single heart to the new issue forced upon it. For years—almost for generations—the Republicans had been fencing and compromising on the various phases which the currency question from time to time assumed. Moreover, the depression which set in after the crisis of 1893 made an opportunity for the apostles of high protection as well as for those of free silver. Both parties in the newspaper tariff controversy had predicted a general rush of prosperity, the one from high duties, the other from low duties. As the years succeeding 1893 grew blacker and blacker, the staunch protectionists had the opportunity to cry, "We told you so: let us return to the policy of prosperity." In the early part of 1896, before the silver issue had forced itself to the front, the Republicans had resolved to stake the issue once more on protection; and it had accordingly been settled that Mr. McKinley was to be the party candidate for the Presidency. What might have been the outcome of a campaign in which the tariff was the single issue cannot be said, though the general conditions at the moment certainly were favorable to the party not in power. Fate willed it that the campaign perforce centred on silver. But, after all, the Republicans were here on the defensive. As to the currency, they undertook only to maintain the *status quo*; while on the tariff, though it might be in the background during the campaign, they were on the offensive, and engaged to legislate afresh at the first opportunity.

This difference in disposition as to the two problems became more pronounced when the smoke of battle cleared away, and the next move was in order. While the popular and electoral votes had been clearly for the Republicans, the complexion of the national legislature was not so altered as to give them a free hand on either tariff or currency. In the Senate they had no controlling majority

without the aid of silver votes. On the currency question the party, as such, could do nothing,—certainly nothing without dissension and recrimination. But on the tariff question something could be done at once. The occasion for action was the more urgent because of the condition of the finances. With a deficit in the Treasury operations for several successive years, and with no fair prospect for financial recuperation, the need for some fresh revenue legislation was imperative. Hence President McKinley, in calling the extra session of 1897, asked Congress to deal solely with the import duties and the revenue. The nature of the provisions for increasing the revenue and their probable effects will be considered presently. They were affected, as all parts of the tariff act were, by the peculiarities of the political situation,—by the anxious desire to arouse no internal party strife on other issues and to secure the prompt passage of some sort of protective measure. The two questions of industrial policy on the one hand, of legislation for revenue on the other, ought, indeed, to be considered separately. But in the history of tariff legislation in the United States, as in that of most other countries, they have been constantly interwoven; and so they were in this case. What with the undeniable need of revenue, the comparative ease with which party strength could be consolidated on the question of protection, the old predilection of all the leading spirits among the Republicans for that issue, and the clearly expressed wish of the President, the tariff at the extra session received exclusive consideration. Thus the first fruits of the election of 1896 were legislation, not on the question which had been uppermost in the campaign, but on the tariff question, on which no clear and unequivocal evidence of popular feeling had been secured.

The legislative history of the measure was instructive, and in some respects showed striking contrasts with that of its predecessor of 1894. In the House the bill was

reported by the Committee on Ways and Means as early as March 18, within three days after the session began. This extraordinary promptness was made possible by methods that paid scant respect to the letter of the law. In theory of law, so long as the new Congress had not met, no one was authorized to take any steps towards legislation at its hands. But, long before this, it was settled that Mr. Reed was to be once more Speaker, and he was able to intimate that the existing Committee on Ways and Means was to remain substantially unchanged in the next Congress; and, during the holdover session of 1896-97, that committee accordingly was at work on the tariff bill, and was able to present it to the new Congress immediately on its assembling. Mr. Dingley, already chairman of the committee in the Fifty-fourth Congress (1895-97), was again to be chairman for the next; and his name was attached in popular discussion to the new measure which he was able to present with such celerity.

The action of the House was as prompt as that of its committee. Within less than two weeks, on March 31, the bill was passed. Only a comparatively small part of it had been considered in the House: no more than twenty-two of the one hundred and sixty-three pages were taken up for discussion. In the main, the committee scheme was adopted as it stood, being accepted once for all as the party measure and passed under the pressure of rigid party discipline. The whole procedure was doubtless not in accord with the theory of legislation after debate and discussion. But it was not without its good side also. It served to concentrate responsibility, to prevent haphazard amendment, to check in some measure the log-rolling and the give-and-take which beset all legislation involving a great variety of interests. Under the iron rule of the Speaker, the House gave the session to the enactment of a deliberately planned tariff bill, and to that only. Whether or no this particular measure was

to one's fancy, the mode in which it was dealt with in the House was conducive to order and responsibility, and was not without its hopeful aspects for the future of procedure in the national legislature.

In the Senate progress was slower, and the course of events showed greater vacillation. The bill, referred at once to the Senate Committee on Finance, was reported after a month, on May 8, with important amendments. There was an attempt to impose some purely revenue duties; and, as to the protective duties, the tendency was towards lower rates than in the House bill, though on certain articles, such as wools of low grade, hides, and others (of which more will be said presently), the drift was the other way. The Senate, however, paid much less respect than the House to the recommendations of the committee in charge. In the course of two months, from May 4 to July 7, it went over the tariff bill item by item, amending without restraint, often in a perfunctory manner, and not infrequently with the outcome settled by the accident of attendance on the particular day; on the whole, with a tendency to retain the higher rates of the House bill. As passed finally by the Senate on July 7, the bill, though it contained some 872 amendments, followed the plan of the House Committee rather than that of the Senate Committee. As usual, it went to a Conference Committee. In the various compromises and adjustments in the Senate and in the Conference Committee there was little sign of the deliberate plan and method which the House had shown, and the details of the act were settled in no less haphazard fashion than has been the case with other tariff measures. As patched up by the Conference Committee, the bill was promptly passed by both branches of Congress, and became law on July 24.

So much deserves to be recorded as to the conditions under which the new tariff was passed. In what manner

they affected its general provisions and some of its details will appear from a consideration of the more important specific changes.

First and foremost comes the reimposition of the duties on wool. As the repeal of these duties was the one important change made by the act of 1894, so their restoration in the act of 1897 is its salient feature. The duties on wool, it will be remembered, had been arranged for a long series of years before 1894 in three classes; the closely allied classes of clothing and combing wool being the first and second, and carpet wool the third. On the former the precise rates which had been imposed in the tariff act of 1890 are restored. Clothing wool is subject once more to a duty of eleven cents a pound, combing wool to one of twelve cents. Carpet wool is subjected to new graded duties, heavier than any ever before levied. If its value is twelve cents a pound or less, the duty is four cents; if over twelve cents, it is seven cents.

Some years ago, when commenting on the tariff act of 1894, I was so rash as to say that the free admission of wool was a change which had come to stay.* Events have falsified the prediction. Here we have duties on wool as high as ever, in some ways higher than ever. Yet the political and economic probabilities in 1894 were such as to invite the forecast. The astonishing growth of all manufactures, uninterrupted before and after that date, made it certain that the United States under any tariff conditions would be a great manufacturing country, and seemed to justify the belief that the desire for freedom in the use of materials would become stronger, the prospect of an expanding foreign trade more tempting, the demand for protection to domestic industries less vehement. The need of foreign wool for clothing the people of the United States and the inadequacy of the domestic supply were clear then, and indeed have become

* In an article in the *Political Science Quarterly* for December, 1894.

more clear in the intervening years. In the woollen manufacturing industry itself it was to be expected with confidence that, once the transition to free wool accomplished, the manufacturers would oppose a return to the old régime. And, as it proved, the manufacturers expressed themselves in terms surprisingly strong on the disadvantages, from their point of view, of a return to the wool duties.* If the change, nevertheless, has been made, the explanation is to be found mainly in the unexpected turn of the political wheel.

Wool is the article as to which it can be said with greatest truth and greatest plausibility that the farmer gets his share of the largesses of protection. It is true that in 1892 the farmers of Ohio and of other central States seemed to show that they were indifferent to the attraction; for in that year a whole row of central States had voted against the party of protection, and in Ohio itself the victory of that party had been so narrow as to be equivalent to a defeat. It is true also that the main effects of the duty on wool would certainly be to stimulate the activity and increase the profits of the large wool-growers in the thinly settled trans-Missouri region, rather than to benefit substantially the farmers proper.† But

* "Never until he had experience under free wool did the manufacturer realize the full extent of the disadvantage he suffers by reason of the wool duty, and the impossibility, by any compensating duty, of fully offsetting these disadvantages." So much was said in the statement made before the Ways and Means Committee by the secretary of the Wool Manufacturers' Association. *Bulletin of the Wool Manufacturers*, March, 1897, p. 84.

† In a formal communication to the Ways and Means Committee the Wool Manufacturers' Association used the following language: "The real explanation of these extraordinary demands lies in the fact that the wool-growers of the Middle West find themselves in need of protection against their American competitors west of the Mississippi River. It was not the imports under the McKinley law, but the cheaper-grown wools of the Far West, which made wool-growing relatively unprofitable on the high-priced lands of Ohio, Michigan, Pennsylvania. Every further expansion of the ranch industry must increase the effects of this competition. An enormous tariff on wool, such as is proposed, would overstimulate this ranch industry, by its promise of excessive profits, and would thus still farther increase the difficulties of the

the determination to give evidence of fostering care for the farming interest was too strong to be affected by such considerations. The silver party had posed ostentatiously as the special friend of the debtor and the farmer. The Republicans, having pushed forward the tariff as their first strong card, must needs do something for the farmer; and heavy duties on wool were the natural result, consistent at once with the established party policy and with the long-continued and earnest contention of President McKinley himself.

One other part of the wool duties served to show how the general political complications affected the terms of the tariff act. The duties on carpet wool, as has already been noted, were made higher than ever before. In the House the rates of the act of 1890 had been retained; but in the Senate new and higher rates were inserted, and, though somewhat pruned down in the Conference Committee, were retained in the act. They were demanded by the senators from some States in the Far West, especially from Idaho and Montana. These senators, though Republican, were on the silver side in the monetary controversy, and so by no means in complete accord with their associates. They needed to be placated; and they succeeded in getting higher duties on the cheap carpet wools, on the plea of encouragement for the comparatively coarse clothing wool of their ranches. It had been shown time and again, on the very principles of protection, that carpet wools were not grown in the country, and that those imported did not affect to any appreciable extent the market for domestic wool. But the Western senators, who held the balance of power,

Middle-West farmer." *Bulletin of the Wool Manufacturers*, June, 1897, p. 133. The wool-growers had at first asked a duty of fifteen cents a pound on clothing and combing wool, and finally had proposed, as an "ultimatum," twelve cents. The manufacturers had offered to join in recommending duties of eight and ten cents (graded by value) on clothing wool, and of nine and eleven cents on combing wool. In the act the growers got substantially their ultimatum,—eleven cents on clothing wool, twelve cents on combing wool.

were able none the less to secure this concession to their demands. It deserves to be noted, on the other hand, that the Senate had been disposed to lower the duties on clothing and combing wool. The Finance Committee had proposed rates of eight and nine cents a pound, and the Senate itself had voted rates of ten and eleven cents; the reduction being due to the influence of the textile manufacturers, who were opposed to the high duties not only because of the price added on the raw material, but also because of the still higher duties on their own products which would be entailed. But in the Conference Committee the House rates of eleven cents on clothing wool and twelve cents on combing wool were restored, and so appear on the statute book.

The same complications that led to the high duty on carpet wool brought about a duty on hides. This rawest of raw materials had been on the free list for just a quarter of a century, since 1872, when the duty of the war days was repealed. It would have remained free of tax if the Republicans had been able to carry out the policy favored by the great majority of their own number. But here, again, the senators from the ranching States were able to dictate terms. In the House bill hides had still remained on the free list. In the Senate a duty of 20 per cent. was tacked on. The rate was reduced to 15 per cent. in the Conference Committee, and so remains in the act.

The restored duties on wool necessarily brought in their train the old system of high compensating duties on woolens. Once more we have the bewildering combination of specific duties to compensate for the charges on the raw material, and ad valorem duties for protection. In the main, the result is a restoration of the rates of the act of 1890. There is some upward movement almost all along the line; and the ad valorem duty alone, on the classes of fabrics which are most largely imported, creeps

up to 55 per cent. Just thirty years before, in 1867, when the system of compound duties on woollens was first carefully worked out, it rested on the assumption that a "net" protection of 25 per cent. was to be secured. But the ad valorem rate, which is designed to give this net protection, advanced steadily in the acts of 1883 and 1890, and in the act of 1897 has reached 55 per cent. Who would venture now to say that this is high-water mark? *

On cotton goods, on the other hand, the tendency is to

* The drift of the changes from the rates of 1890 is shown by the following figures as to the two classes of goods which are most largely imported: —

DUTIES ON WOOLLEN CLOTHS.

1890.	1897.
(1) If worth 30 cents or less per pound, 33 cents per pound plus 40 per cent.	(1) If worth 40 cents or less per pound, 33 cents per pound plus 50 per cent.
(2) If worth between 30 and 40 cents per pound, 38½ cents per pound plus 40 per cent.	
(3) If worth more than 40 cents per pound, 44 cents per pound plus 50 per cent.	(2) If worth between 40 and 70 cents per pound, 44 cents per pound plus 50 per cent. (3) If worth over 70 cents per pound, 44 cents per pound plus 55 per cent.

DUTIES ON DRESS GOODS.

1890.	1897.
(1) Cotton warp, worth 15 cents a yard or less, 7 cents a yard plus 40 per cent.	(1) and (2) the same; but with the pro- viso that the ad valorem duty shall be 55 per cent. if the value is over 70 cents per pound.
(2) Cotton warp worth more than 15 cents a yard, 8 cents a yard plus 50 per cent.	
(3) If the warp has any wool, 12 cents a yard plus 50 per cent.	(3) If the warp has any wool, 11 cents per yard plus 50 per cent; but with the proviso that the ad valorem duty shall be 55 per cent. if the value ex- ceeds 70 cents per pound.

It will be observed that on dress goods (of which some \$20,000,000 worth was imported in 1896) the customs officers will have to ascertain, first, whether the warp consists "wholly of cotton or other vegetable material": if so, whether the goods are worth more or less than 7 cents a yard; if not, whether they are worth more or less than 70 cents a pound. All these circumstances affect the rate of duty, and obviously increase the difficulties of administration and the opportunities for evasion.

duties lower rather than higher as compared with those of 1890. This is indicated by the drag-net rate, on manufactures of cotton not otherwise provided for, which was 50 per cent. in 1890, and is 45 per cent. in 1897. There is, again, as in 1890, a rigorously elaborate system of combined specific and *ad valorem* duties on certain sorts of goods selected for especially heavy rates, such as cotton stockings and hose, and pluses, velvets, corduroys. In the main, the cotton manufacturers held aloof from the new measure. The rates of the act of 1894 had been not unsatisfactory to them; and they may have feared some such policy in regard to their material as befell the wool manufacturers. In fact, the Senate, in the course of its tortuous amendments, inserted in the bill (apparently somewhat to its own surprise) a duty on raw cotton, designed to check the importation of certain kinds of Egyptian cotton whose fibre fits it for some special uses. But here no political complication within the Republican party bolstered up the change; and this proviso, absurd enough, but no more absurd than those relating to carpet wool and to hides, disappeared in the Conference Committee.

Two large classes of textile goods are subjected to new and higher duties,—silks and linens. Silks had been subject to heavy *ad valorem* duties ever since the civil war, the rate having been 60 per cent. from 1864 to 1883 and 50 per cent. since 1883. These duties have caused a great silk manufacturing industry to grow up under conditions and with results that may perhaps be fairly cited as illustrating the possible gains from protection to young industries. But while large classes of silk goods are no longer imported, other large classes continue to be imported in spite of the duties. On the latter the high *ad valorem* rates inevitably tempt to undervaluation and fraud; and, what with the large imports and the notoriously unsatisfactory administration of the *ad valorem* duty,

there had been from time to time proposals for specific duties. The difficulties of adjusting such duties, however, were great, in view of the greatly varying qualities of the goods and the absence of any manageable means of grading the duties by external marks. In the act of 1897 this difficult task has been boldly undertaken. We find a new and complicated scheme of specific duties on silk piece goods. The general plan is to levy duties by the pound, which become heavier as the percentage of silk in the goods is larger and the goods themselves become finer; with the general proviso that the duty shall in no case be less than 50 per cent. Only a person minutely conversant with the details of the trade can judge what the effect of the new rates will be; but, from past experience as to the substitution of specific for *ad valorem* duties, it is safe to infer that they will usually far exceed the minimum of 50 per cent. on the value. It would seem also safe to infer that the administrative difficulties under the new schedule will be great, and perhaps greater than under the old. The exact determination of the percentage in weight of pure silk in any given piece of so-called silk goods can hardly be an easy matter. Yet this must be precisely ascertained for the satisfactory administration of the new duties. By way of example, we may note the application of the new graded schedule at a single point. The duty on certain kinds of silks is \$1.30 per pound, if they contain 45 per cent. in weight of silk, and \$2.25, if they contain more than 45 per cent. The same sort of gradation, bringing sudden great changes in duty as an obscure dividing line is crossed, runs through the whole schedule; and the temptation to false statement at the hands of the importer would seem to be as great as the difficulty of detection at the hands of the customs examiner. Both in the high range of rates and in the attempt at rigorous enforcement the new act here goes far beyond the act of 1890, making a new and important

advance in the application of the extreme protective principle.*

The advance in the duties on linens is another step of the same sort, though one less likely to have a considerable effect. In the act of 1890 linens in general had been subjected to a duty of 50 per cent., which had been reduced in 1894 to the old rate of 35 per cent. For the first time in our tariff history certain linens are now subject to specific duties, combined with *ad valorem* additions. They are graded somewhat as cotton goods are: if the number of threads is sixty or less per square inch, the

* The curious reader will find the details in paragraph 387, which fixes the duties on woven silk fabrics in the piece, not otherwise provided for. The same rates are applicable, under section 388, to silk handkerchiefs. The method of grading is exemplified further by the following summary statement of some of the rates first enumerated.

Duties on silk piece goods:—

(1) containing 20% or less in weight of silk, if in the gum	\$0.50 per lb.
if dyed in the piece . . . . .	.60 "
(2) containing 20 to 30% in weight of silk, if in the gum . . . . .	.65 "
if dyed in the piece . . . . .	.80 "
(3) containing 30 to 45% in weight of silk, if in the gum . . . . .	.90 "
if dyed in the piece	1.10 "
(4) containing 30% or less in weight of silk, if dyed in the thread, black . . . . .	.75 "
other color . . . . .	.90 "
(5) containing 30 to 45% in weight of silk, if dyed in the thread, black	1.10 "
other color	1.30 "

So the schedule goes on, the duties advancing by stages as the per cent. in weight of silk becomes greater, as the goods are dyed in the thread or yarn, as the goods are "weighted in dyeing so as to exceed the original weight of the raw silk," and so on. Goods of lighter weight (less than 1 1-3 ounces per yard) are subject to still higher duties; those of lightest weight (1-3 ounce per yard or less), to the highest duty of all, the maximum being \$4.50 per pound.

It deserves to be noticed that the woollen manufacturers, confronted with the undervaluation problem under the *ad valorem* duties on woollens, found it impossible to frame a scheme of specific duties. A special committee from their number, which attempted to devise such a scheme, found that "a wholly specific schedule is impossible, because of the thousands of variations—in weave, in texture, in materials, in finish—which distinguish woollen goods from those of all other textile manufacturers." See *Bulletin of the Wool Manufacturers*, March, 1897, p. 72. In the tariff bill as passed by the House the duties on woollens (over and above the compensating duty) had been made partly *ad valorem* and partly specific with gradations by value. But this additional complication in the woollens schedule was struck out in the Senate.

duty is one and three-fourths cents a square yard; if the threads are between sixty and one hundred and twenty, the duty is two and three-fourths cents; and so on,—plus 80 per cent. ad valorem duty in all cases. But finer linen goods, unless specially provided for otherwise, are treated leniently. If the weight is small (less than four and one-half ounces per yard), the duty is but 35 per cent. On the other hand, linen laces, or articles trimmed with lace or embroidery, are dutiable at 60 per cent.,—an advance of 10 per cent. over the rate of 1890. The new specific duties on linens may cause some cotton mills to turn to cheaper grades of linens, such as towel cloth; but past experience warrants the expectation that most linen goods will continue to be imported, in face of the new duties. It was inevitable, under the political conditions of the session, that in this schedule something should again be attempted for the farmer; and, accordingly, we find a substantial duty on flax. The rate of the act of 1890 is restored,—three cents a pound on prepared flax, in place of the rate of one and one-half cents imposed by the act of 1894. Here, too, it is safe to say that no appreciable economic change will result.

While the textile schedules thus show important changes from the rates of 1894, and in some cases rates even higher than those of 1890, the metal schedules, and especially that on iron and steel, are left very much as they were. Indeed, Mr. Dingley, in introducing the bill in the House, said that “the iron and steel schedule, except as to some advanced products, has not been changed from the present law, because this schedule seemed to be one of the two of the present law [the other being the cottons schedule] which are differentiated from most of the others, and made in the main protective.” Hence we find, as in the act of 1894, iron ore subject to duty at forty cents a ton, and pig iron at four dollars a ton. On steel rails there is even a slight reduction from

the rate of 1894,— \$6.72 per ton instead of \$7.84. On tin plate, that bone of contention under the act of 1890, there is a slight increase. The duty on this in 1890 had been two and one-fifth cents a pound; in 1894 it was reduced nearly one-half,— to one and one-fifth cents; now it is fixed at one and one-half cents. On coal, also, there is a compromise rate. The duty had been seventy-five cents a ton in 1890, and forty cents in 1894: it is now fixed at sixty-seven cents.

On the other hand, as to certain manufactures of iron and steel farther advanced beyond the crude stage, there is a return to rates very similar to those of 1890. Thus, on pocket cutlery, razors, guns, we find once more the system of combined ad valorem and specific duties, graded according to the value of the article. It is not easy to unravel the meaning and probable effects of the complicated duties which have been imposed in these cases; but it is clear that they are framed with a view to imposing a very high barrier to imports, and yet are arranged on the system, vicious from the administrative point of view, of bringing sudden changes in duty as a given point in appraised value is passed.*

* Pocket cutlery supplies a good example of the methods applied in the acts of 1890 and 1897 to the articles here mentioned. The rates of duty were:

Class.	1890.	Duty.
1) Value (per dozen) 50 cents or less.		12 cents (per dozen) plus 50 per cent.
(2) Value 50 cents @ \$1.50.		50 cents plus 50 per cent.
(3) Value \$1.50 @ \$3.00.		\$1.00 plus 50 per cent.
(4) Value over \$3.00.		\$2.00 plus 50 per cent.

Class.	1897.	Duty.
(a) Value (per dozen) 40 cents or less.		40 per cent.
(1) Value 40 @ 50 cents.		12 cents plus 40 per cent.
(2) Value 50 cents @ \$1.25.		60 cents plus 40 per cent.
(3) Value \$1.25 @ \$3.00 per dozen.		\$1.20 plus 40 per cent.
(4) Value over \$3.00.		\$2.40 plus 40 per cent.

It will be seen that on the cheapest knives there is a reduction in duty as compared with 1890; while on the higher classes, and especially on the second, there is an increase. The most effective change is that by which the line of

Some other items in the metal schedule deserve notice. Copper remains on the free list, where it had been put in 1894. Already in 1890 the duty had been reduced to one and one-fourth cents per pound. As the copper mines, almost alone among the great enterprises of the country, had been enjoying uninterrupted prosperity, even during the period of depression, and had been exporting their product on a great scale, no one cared a straw for the duty. For good or ill the copper duty had worked out all its effects years before. On the other hand, the duties on lead and on lead ore go up to the point at which they stood in 1890. Here we have once more the signs of concession to the silver Republicans of the Far West. A considerable importation from Mexico of ores bearing both lead and silver had brought some competition with American mines yielding the same metals,—competition which could not well be helped as to the silver, since that would find its way to the international market in any case, but which could be impeded so far as the domestic market for lead was concerned. Accordingly, there is a substantial duty on lead, and on lead-bearing ore in proportion to the lead contained.*

classification by value is shifted from \$1.50 to \$1.25,—a shift which caused many goods to come under class 3 in 1897 which were in class 2 in 1890, and so caused a great advance in the duty chargeable. It may be noted incidentally that the figure of \$1.50, to mark the dividing line between classes 1 and 2, had been retained both in the House bill and in the Senate bill: the change to \$1.25 was made at the last moment in the Conference Committee. It needs only a glance at the duties under these classes in 1897 to show how great will be the temptation to manufacture knives and to juggle with their value in such manner as to bring them below the dividing line of \$1.25. The same vicious method of grading the duties on pocket-knives was followed in the act of 1894, though with somewhat lower rates. In 1890 and 1897 (not in 1894) the method was also applied to razors, table knives, and guns, and in 1897 to shears and scissors. The pertinent paragraphs of the act are numbers 153 to 158.

* The duties in the recent tariff acts have been:—

	<i>Lead ore per pound of lead contained.</i>	<i>Lead per pound.</i>
1890	1½ cents.	2 cents.
1894	4 cent.	1 cent.
1897	1½ cents.	2½ cents.

In general, the duties in the metal schedule have ceased to excite controversy, and even to arouse attention. Whether or no as a result of the application of the protective system, the iron and steel industry has in fact passed the period of tutelage, and has become not only independent of aid, but a formidable competitor in the markets of the world. The extraordinary development of this industry during the last thirty years is one of the most remarkable chapters in the remarkable economic history of our century. To follow its course would carry us far beyond the limits of the present article. The discovery of the wonderful beds of iron ore on Lake Superior; the feverish development of the coal deposits of the Middle West; the amazing cheapening of transportation by water and rail; the bold prosecution of mining, transportation, manufacturing, not only on a great scale, but on a scale fairly to be called gigantic,—all these have revolutionized the conditions of production; have called for resource and genius in the captains of industry; have enabled the bold, capable, and perhaps unscrupulous to accumulate fortunes that rouse the uneasy wonder of the world; have given rise to new social conditions and grave social problems. Something of the same sort has happened in the growth of copper mining; though here the richness of the natural resources has counted far more, and the situation in general has been more simple. Among the forces which have been at work in these industries protective duties have probably counted for much less than is often supposed. An eagle eye in divining possibilities, boldness and resource in developing them, skill and invention in designing the most effective mechanical appliances,—these forces of character and of brains, developed by the pressure of competition in a strenuous community, and applied under highly favoring natural conditions, explain the prodigious advance. Hence we have seen not only prices steadily falling, and

the domestic market fully supplied, but the beginnings of an export movement. The greater cheapness of the crude material has promoted, again, the growth of the manufactures which rest on it, and has given a further stimulus to the tool-making and machine-making industries, in which American ingenuity finds its most congenial field.

These conditions are now permanent. Iron and steel, on which the material civilization of the modern world rests, are produced more abundantly than anywhere else, and at least as cheaply,—soon, if not yet, will be produced more cheaply. With the wide diffusion of a high degree of mechanical ingenuity, of enterprise, of intelligence and education, it is certain that the United States will be, and will remain, a great manufacturing country. The protective system will be of less and less consequence. The deep-working causes which underlie the international division of labor will indeed still operate, and the United States will still find her advantages greater in some directions than in others. The ingenuity of legislators will still find opportunity to direct manufacturing industry into channels which would not otherwise be sought: witness some of the minor duties, complicated in form and weighty in effects, under the acts of 1890 and 1897. But the absolute effect, still more the proportional effect, of such legislation on the industrial development of the country will diminish. The division of labor within the country will become more and more important, while international trade will be confined more and more to what may be called specialties in manufactured commodities, and articles whose site of production is determined mainly by climate. Not only sugar (for the present), tea, coffee, and the like, but wool also belong in the class last mentioned, as to which climatic causes dominate; and the duties on wool, with those on woollens in their train, are thus the most potent in bringing a substantial interference with the course of international

trade. But, on the whole, protective duties, however important they may be in this detail or that, cannot seriously affect the general course of industrial growth, and will affect it less and less as time goes on. Some indications of this trend are already to be seen in the eagerness with which a fresh opportunity for applying the protective system is welcomed, and even sought, by the party now dominant. And an important consequence is that this question can hardly avail much longer as a great issue in politics. As the great industries of the community become more and more indifferent to legislative bolstering, the public will become more and more indifferent to the protective controversy.

A part of the new act which aroused much public attention, and which has an important bearing on its financial yield, was the sugar schedule,—the duties on sugar, raw and refined. It will be remembered that the act of 1890 had admitted raw sugar free, while that of 1894 had imposed a duty of 40 per cent. *ad valorem*. This *ad valorem* rate had produced a revenue much smaller than had been expected, and, indeed, smaller than might reasonably have been expected. Notwithstanding the insurrection in Cuba and the curtailment of supplies from that source, the price of raw sugar had maintained its downward tendency; and the duty of 40 per cent. had been equivalent in 1896 to considerably less than one cent a pound. In the new act the duty is made specific, as it had been before 1890, beginning with a rate of one cent a pound on sugar tested to contain 75 per cent., and advancing by stages until it becomes 1.65 cents on sugar testing 95 degrees. As commercial raw sugar usually tests somewhere near 95 degrees, the effective duty, and probably the revenue from this source, are doubled. On refined sugar the duty is 1.95 cents, which, as compared with raw sugar of the maximum content, leaves as protection for the domestic refiner — namely, for the Sugar

“Trust”—an additional or “differential” duty of $\frac{1}{2}$ cent, precisely the differential given by the act of 1894.*

The changes which this part of the tariff act underwent in the two Houses are not without significance. In the bill, as reported to the House of Representatives by its committee, and as passed by the House, the initial rate on the crudest sugar (up to 75 degrees) was the same as that finally enacted, one cent; but the rate of progression was slower (.03 cent for each degree instead of .035), and the final duty on the important classes of raw sugar in consequence somewhat less. The so-called differential, or protection to the refiners, was one-eighth of a cent per pound. In the Senate there was an attempt at serious amendment. The influence of the Sugar Trust in the Senate has long been great. How secured, whether through party contributions, entangling alliance, or coarse bribery, the public does not know; but certainly great, as the course of legislation in that body demonstrates. The Senate Finance Committee reported an entirely new scheme of sugar duties, partly specific and partly ad valorem, complicated in its effects, and difficult to explain except as a means of making concessions under disguise to the refiners. But here, as on other points, the Senate treated its committee with scant respect, threw over the whole new scheme, and reinserted the rates of the House bill on raw sugar, but with an increased differential, amounting to one-fifth of a cent, on refined sugar. So the bill went to the Conference Committee, with the differential alone in doubt. What debates and discussions went on in that committee is not publicly known. It is one of the curious results of our legisla-

* The rates are:—

	1 cent per lb.
On raw sugar testing up to 75 degrees	1
For each additional degree . . . . .	.065 " "
Hence raw sugar testing 85 degrees pays	1.65 " "
And raw sugar testing 100 degrees pays	1.965 " "
Refined sugar pays	1.96 " "
Leaving a difference between the refined sugar rate and that on raw sugar at the 100 degree rate of . . . . .	.125 " "

tive methods that the decisive steps are often taken in star chamber fashion. But it was credibly reported that the sugar schedule was the sticking-point,—that on this schedule, and this only, each branch was obstinate for its own figures. Finally, the Senate gave way. By slightly increasing the rate on raw sugar, and leaving that on refined at the point fixed by the Senate, the House secured the essential thing,—the retention of the *status quo* as to the differential in favor of the Sugar Trust. The result certainly was in striking contrast to that of 1894. Then, too, there was a struggle between the House and the Senate on the protection of the trust,—not indeed on that alone, but on that conspicuously. Then the House had proposed to wipe out all duties, and so all protection; while the Senate had proposed a substantial largess to the trust. After a struggle much longer than that of 1897, the House had given away, and its leaders had been compelled to make a mortifying concession to an unpopular policy. The outcome in 1897 was, it is true, in substance not different. The differential is the same under the act of 1897 as it was under that of 1894; and the increase in the duty on raw sugar once more enabled the refining monopoly, as the one large importer, to make an extra profit, temporary but handsome, by heavy imports hurried in before the new act went into force. But the moral effect was very different. The House in 1897 had adopted the plan of leaving things as they were, and had successfully resisted the effort of the refining monopoly to secure more. The result was due mainly to greater party cohesion and more rigid party discipline, enforced by the genial despotism of the autocratic Speaker of the House.

Certain sections of the act revive to some extent, but in somewhat new form, the policy of reciprocity which had been incorporated in the act of 1890.* One of these sections provides, in almost the exact phraseology of the

* They are in sections 3 and 4 of the act of 1897.

earlier act, that the President, if satisfied that other countries impose duties that are "reciprocally unequal and unreasonable," may suspend the free admission of certain specified articles,—tea, coffee, tonka beans, and vanilla beans,—and that these articles shall thereupon be subject to duty, coffee at three cents a pound, tea at ten cents, and so on. The act of 1890 had held out the threat of duties as to some other important articles,—sugar and hides. But these could not now be easily used for the reciprocity clauses, being dutiable in any case. Tonka beans and vanilla beans, even though imported mainly from the tropical parts of South America, can hardly be considered weighty substitutes.

Quite different in purpose, and designed to reach countries of the same rank in power and civilization as the United States, are some provisions which contemplate not fresh duties, but a reduction of those imposed by the new act. In the first place the President is authorized, "after securing reciprocal and reasonable concessions," to suspend certain duties, and replace them by duties somewhat lower. The articles on which reduction may thus be made are argol (crude tartar), brandies, champagne, wines, paintings, and statuary. The country aimed at is France. The higher duties on silks in the new act will especially affect this country, and may tempt her to reprisals. Her system of maximum and minimum duties, adopted in 1892, was expressly devised as a means of securing concessions in commercial negotiations. Now the United States follows suit, and arranges her own system of duties in such manner that concessions are provided for in advance. The whole has somewhat the effect of a comedy, each country enacting high duties which it does not really care to enforce, and offering concessions which it does not regard as real concessions.

More important in its scope, but so limited as regards time and conditions that it will probably be without ef-

fect, is the next section, which contemplates commercial treaties for general reductions of duties. The President may conclude treaties providing for reductions of duty up to 20 per cent. on any and every article. But the treaties must be made within two years after the passage of the act. They may provide for reductions only through a period not exceeding five years. They must be ratified by the Senate, and further "approved by Congress"; that is, by the House as well as by the Senate. The other reciprocity arrangements, described in the preceding paragraphs, do not need the consent even of the Senate. The arrangement for a possible general reduction of duties by 20 per cent. was not contained in the House bill, but was inserted by the Senate in the course of its amendment. Restricted as it is, the chance of its leading to any practical result is of the slightest.

One other important aspect of the new act remains to be considered,—its fiscal yield, and its bearing on the probable future of the national finances. Designed to give protection to domestic industries, it is expected also to bring to the Treasury a much-needed increase of revenue. This combination of industrial and fiscal policy is too common in the history of the United States, as indeed in that of other countries, to have aroused much comment. Yet it is certainly unfortunate that so little attention was given to the simple question of revenue, without regard to protection or free trade. Additional taxes on beer or on tobacco (not to mention duties on tea and coffee), even though so moderate in rate as to have been borne easily by consumers, would have yielded a large, steady, and easily collected revenue. Proposals for taxes of this sort were indeed made by the Senate Finance Committee; but most of them were struck out by the Senate itself, and hardly a trace remained in the act as passed. A slight increase in the tax on cigarettes and a modi-

fication of certain rebates in the taxes on beer will bring something into the Treasury. Barring these minor changes, protective duties, and these only, are relied on to convert the deficit into a surplus.

Additional revenue, doubtless, will come from the new tariff act. The increased duty on sugar will yield a fresh revenue, and one, moreover, whose amount can be forecast with reasonable certainty. The reimposition of duties on wool and the higher duties on woollens will swell the revenue considerably. Other new duties or higher duties will yield something. But how much? On this question some estimates were indeed made by the committees who submitted the measure to the two branches of Congress. In the House, the Committee on Ways and Means, in its formal printed report, estimated that the revenue would be increased by seventy-six millions for the first year (1897-98). When presenting the bill to the House, Mr. Dingley, the chairman of that Committee, stated that, once in full operation, the act would yield a round hundred millions of additional revenue. Towards the close of the session, when the conference report was under consideration, the same gentleman remarked that a great sum, forty millions or thereabouts, had been lost to the Treasury by heavy importations during the discussion of the bill, and that the revenue would be increased for the first year by a much smaller amount than he had originally expected; but for the second year he still forecast a great gain, of some eighty-five millions.* In the Senate, Mr. Aldrich, chairman of the Committee on Finance, was much more cautious. Beyond the first year he ventured on no prophecies. But for that year

* Among the sources which would contribute to this handsome final gain in revenue, Mr. Dingley mentioned the round sum of ten millions of dollars (!) as likely to come from "personal effects of American tourists arriving from Europe." The new provision as to these is that "no more than one hundred dollars in value of articles purchased abroad by such residents of the United States [residents returning from abroad] shall be admitted free of duty on their return."

(1897-98) he estimated that the bill would not yield enough revenue to cover the expenditures. Hence the Senate Committee proposed the additional means of securing revenue, to which reference has already been made,—an increase in the internal taxes on beer and tobacco and a slight import duty on tea. The new taxes on tea and on beer were to last for three years, until 1900, indicating that, in the judgment of this committee, the tariff changes, even after the first year, would not yield what was needed, unless re-enforced by additional sources of revenue.

It would be idle to follow the details on which these calculations rested, or to inquire whether one or another had the better basis; for, in truth, they all rest on guess-work. Supposing the imports to remain the same as in some previous year, it is possible to state what a given rate of duty will yield; but no one can foretell with any approach to accuracy what the imports will be. This is more particularly the case with imports of protected articles and the revenue derived from them. Sugar alone, once the rate of duty is fixed, yields a fairly regular amount. Being an article of steady consumption, mainly secured by importation, it belongs, so far as the financial effects of the duty are in question, in the same class as tobacco, beer, spirits, which bring to the Treasury a steady and calculable revenue. Setting aside sugar, we have dutiable imports that fluctuate greatly and unexpectedly from year to year. Even with rates unchanged, it is impossible to know in advance with any degree of certainty what the revenue will be. In times of activity imports tend to rise, and the revenue swells. In times of depression they tend to fall, and the revenue shrinks. He who could foretell the oscillation of the industrial tides would have something on which to base an estimate of the direction at least, if not of the rate, in the movement of the national revenues. But even for the most ex-

perienced observer and under stable rates of duty, there must always be a large margin of uncertainty in estimates of the future tariff revenue. With rates much changed, no estimate can be more than a guess.

The uncertainty as to the yield of the act of 1897 serves to bring into vivid relief once more, not only the haphazard character of our fiscal methods, but the need of a thorough reform in the monetary system. Much has been said of late as to the beneficial effects of a surplus in enabling the Treasury to fulfil its obligations for the maintenance of gold payments; and it has even been preached that a surplus is the one thing needful. Whatever be the future course of legislation on the monetary system,—whether towards a separation of the monetary from the strictly fiscal duties of the Treasury, or towards a more trenchant reform, by putting an end to its paper issues once for all,—it is of prime importance that it have a free hand in meeting its regular disbursements, as well as in preparing for any new system. But the revenue from such an act as the new tariff act is simply a matter of luck; and, if enough or more than enough is provided in one year, less than enough is likely to be provided in another. It would be too much to hope for a radical change in our fiscal methods, such as to secure a more regular and accurate balancing of receipts and expenditures. But, surely, the monetary system could be extricated from the confusion, and set on some rational and well-defined basis of its own.

As it happens, the prospects for the next few years warrant the expectation that the act of 1897 will so raise the revenue as to enable the expenditures to be met, and will remove for the time being that complication in the general situation. The enormous exports of 1896 and 1897, fortunate for the United States, as were those of 1878-81, will sooner or later be followed by inflowing imports. How large the inflowing stream will be, what

proportion of dutiable and non-dutiable imports it will contain, must be uncertain. The only thing that can be predicted is that,—once the heavy imports brought in before the act are out of the way,—imports and revenue will rise for the next two or three years. For a while the Treasury is likely to be unembarrassed, and will have a comparatively easy task in performing its double duties of paying the expenses of the government and of maintaining the solidity of the circulating medium.

Whether this will prove to be real good fortune depends on the use made of the favoring opportunity. The experience of the time, now near twenty years ago, when specie payments were resumed, may serve as an example and a warning. Then, too, there was a combination of favoring conditions,—full crops and a large export demand, coming at a time when liquidation after the crash of 1873 had been nearly completed. Hence the resumption of specie payments was successfully accomplished, notwithstanding legislative provisions singularly ill defined and apparently inadequate. This was rare good fortune. But it caused a feeling that all had been done that needed to be done, and encouraged a policy first of drifting, then of reckless experimenting, which finally brought disaster in 1893, and a renewed contest for sound money, after all only half settled in 1896. Very possibly, if the conditions of 1878-81 had been less favorable, if the effort for resumption then had failed, we should have had a more earnest effort for definitive reform and a better final outcome. The same danger is before us now. The good fortune of the present may once again cause drifting, inaction, the continuance of vicious and inherently dangerous monetary conditions, and so may lead eventually to another crisis, another struggle, and a further period of anxious unsettlement. It remains to be seen whether the propitious occasion will be seized, and whether some setting of our house in order will be accomplished.

F. W. TAUSSIG.

NOTES AND MEMORANDA.

DISTRIBUTION OF SMALL BANKS IN THE WEST.

The tables in the Appendix, compiled from official returns, show the distribution of small banks, private, State, and national, in several of the Western States where there is a remarkable development of banking under State laws. Banks are classified according to the amounts of their capitals, and towns according to the numbers of their inhabitants. The number of banks of each class in towns of each class is shown, and *vice versa* the number of towns of each class having banks of a given size.

The tables show a large number of small State and private banks in small towns. In each table of private banks, except for Nebraska, the largest number is in the upper left-hand corner, showing how many banks having not more than \$5,000 capital are in towns whose population does not exceed five hundred. In the table of South Dakota State banks, also, the largest number is found in the corresponding space. The largest numbers in the other State bank tables, and in the table of private banks for Nebraska, are in the spaces for banks whose capital is not more than \$10,000 each in towns of five hundred inhabitants or less. \$10,000 is the commonest figure of State bank capital. It should be noted that the minimum capital allowed by law to State banks is \$10,000 in Missouri and \$5,000 in Kansas, Nebraska, and the Dakotas.

It will be seen from the horizontal lines of totals that in Missouri somewhat more than one-half of the State banks are in towns the population of which does not exceed one thousand. In Kansas and Nebraska two-thirds of the State banks are in such towns, and in the Dakotas nearly all of them. Most of the private banks, too, are found in small towns.

The fact that in the region under consideration the State and private banks are small and are in little villages will be

seen clearly if on each of the tables of such banks a line is drawn from the lower left-hand corner to the upper right-hand corner. The figures that fall below the lines are few or small,—somewhat fewer and smaller, of course, in the tables of private banks than in those of State banks. The figures in the State bank tables *above* the lines drawn as suggested are large. There is, it seems, no great obstacle to the organization in little towns of little State banks.

It is a natural question, then, Why are there any private banks at all? It is true, they have more freedom in their operations; but this reason does not often determine the establishment of banks without charters, for the laws of all these States except South Dakota impose some restrictions on private banks, and even South Dakota exercises supervision of them.

In most States the controlling reason, probably, is that the small capital needed for a bank in a little town is often supplied by one or two men, and that, if the bank is to be incorporated, these capitalists must set up several "straw men" to complete the number of "directors" prescribed for incorporated banks.

In South Dakota, however, many private banks exist, because the law requires no minimum capital for them. Two private banks are returned as having no capital at all. Four have not more than \$1,000 each, and ten others have each *less* than \$5,000.

No attempt is made in these tables to show in what *very* little hamlets State banks are found. Seven Missouri villages having no more than one hundred people have State banks, the average capital being about the legal minimum, \$10,000. There are in Nebraska thirteen such towns with banks having an average capital of \$8,000. Eight such villages in Kansas have banks with an average capital of more than \$6,000. About the same average capital is found in seven Dakota banking towns of this size.*

*Of course, such towns as these do not alone support banks. The villages are simply convenient trading-points for farmers. Besides the little bank there is in each a railroad station from which the farmers conveniently ship cattle and grain, when these are not bought up by the middleman the town is sure to

Examining the tables again, one sees that State and private banks have a monopoly in towns whose population is one thousand or less, except in North Dakota, where nearly one-half of the national banks are in such towns. There are national banks in some very small Kansas and Nebraska villages, but they are few compared to the total for the State.

Let the reader cover the upper portions of the tables, so that only the figures of banks with more than \$40,000 capital are visible. Now, leaving Missouri out of account for the moment, practically every figure in each "national" table is greater than the figure in the corresponding spaces in the "private" and "State" tables. Except for the restriction on capital, the people prefer national banks; and that is why there are national banks in little North Dakota towns.

In Missouri the State banking system is evidently much preferred. State banks were established all over Missouri while the total of national bank currency was limited by statute, and while it was, therefore, impossible to supply the growing need for increased facilities by organizing national banks. Except in Kansas City and St. Joseph, which grew rapidly in the eighties and became national banking towns, the State banking tradition has generally persisted. Missouri is, therefore, an exception to the preference for national banks discovered in the other States.

It has been proposed, and the proposition has been sanctioned by the American Bankers' Association, to authorize the establishment of national banks with \$25,000 capital. The measure would not answer the purpose for which it is intended, even if all State banks capitalized at \$25,000 or more went into the national system. It will be seen that considerably more than one-half of the State banks in Kansas, Nebraska, and Missouri and more than three-fourths of those in Dakota have not more than \$20,000 capital each. If it is desirable to establish a uniform banking system, another way must be found.

THORNTON COOKE.

afford. There is a post-office in the "general store." Livery stable and blacksmith shop are not far off. Coal and lumber are for sale somewhere, perhaps at the grain dealer's "office"; and there is sure to be a carpenter in the village. The writer knows of a village where the banker himself is the carpenter.

ELEMENTARY ECONOMICS IN SCHOOLS AND COLLEGES.

To secure information on the subject of this note, a circular letter and a blank form of questions were sent to two hundred educational institutions, selected in such manner so as to represent all sections of the United States.

Ninety-one colleges of moderate size were written to, excluding those solely for women, but including many so-called universities. Of these, thirty-nine replied; and in all economics had a place in the courses of study.

The questions were also sent to thirty-five public normal schools and to a large number of high schools. The list of high schools written to included those in all cities (except four) having over 75,000 inhabitants at the census of 1890, and in some of the smaller cities down to 17,000 in population.

The question whether economics was included in the course of study or not, when put to normal and high schools, brought some interesting results. According to the answers to this question, three distinct groups of States appear. The New England States, New York, Pennsylvania, and New Jersey, which I call group I., show a tendency to leave economics to the colleges. The normal schools in this region, as far as heard from, omit the study altogether. Group II. includes the central States, taking in also Missouri and Colorado. Here economics is usually taught in the best high schools and normal schools. Group III. includes all of the old slave States except Missouri and the extreme Western States. The meagre returns from this region give no evidence of any settled custom. The normal schools sometimes have economics, but the high schools rarely. The following tabulation of the answers shows the characteristics of the three groups. The returns from Wisconsin schools are excluded for obvious reasons:—

GROUPS.	NORMAL SCHOOLS.				HIGH SCHOOLS.			
	Written to.	Replied.	Affirmative.	Negative.	Written to.	Replied.	Affirmative.	Negative.
I. The East	10	3	0	3	20	8	5	8
II. Central States	13	7	5	2	28	11	10	1
III. South and Far West . .	12	4	3	1	25	7	4	3
Totals	35	14	8	6	73	26	19	7

Some interesting facts appeared which the table does not tell. The cities whose high schools replied in the negative include one with a population in 1890 of 163,000, two of 88,000, one of 54,000, one of 40,000, and one of 34,000, indicating that the exclusion of economics was not due to lack of proper teachers or books or to any weakness in the schools. In North Dakota economics is included in the course of study prescribed for high schools by the State board. In Wisconsin the good high schools, with but few exceptions, offer economics. So also do all of the seven State normal schools. The four high schools which returned affirmative answers from group III. were in Washington, Jacksonville, Los Angeles, and Louisville,—cities where we might expect characteristics foreign to the section in which they are placed.

The following table is based on the returns received. Three Wisconsin normal schools are included.

The number of weeks' work is on the basis of five recitations a week; but the figures on this point are only approximate, as the returns in some cases were inexact. Three teachers confessed that they had never studied economics before teaching it. Fifteen institutions do little or no work outside of the text-book, and four have no written work except final or term examinations. In very few cases did evidence appear that the work in economics was in any way related to the work in history or political science. Except in large col-

	COLLEGES.	NORMAL SCHOOLS.	HIGH SCHOOLS.
Number of returns received	38	11	19
The instructor:			
Ph.D.	4	0	0
Studied at university	12	3	5
College graduate	18	4	7
Teaches history, civics, and the like .	18	1	3
Teaches other classes	6	6	9
President	12	2	0
Amount of work:			
Average number of weeks, elementary course	16.1	14.6	18.7
Required	25	10	9
Optional	12	1	9
Advanced work offered	7	1	0
Text-book:			
Walker	21	3	6
Laughlin	0	4	9
Ely	5	2	0
Others	9	2	4
Authors most used for reference:			
Mill	13	3	5
Ely	12	1	3
Adam Smith	8	2	2
Walker	6	1	6
Laughlin	10	2	0
Marshall	8	0	2
Methods:			
Text-book used as basis	30	8	15
Topical method	7	2	4
Written work, over and above examinations	28	7	14

leges with many electives the study usually comes in the last year's work after all the history; but there are numerous exceptions to this rule.

FREDERICK R. CLOW.

STATE NORMAL SCHOOL, OSHKOSH, WISCONSIN.

BELLAMY'S "EQUALITY."

Eight years ago I had the privilege of publishing in this *Journal* an article on "Nationalism in the United States." This was the name given by the disciples of Mr. Edward Bellamy to a movement intended to realize gradually the ideas set forth in *Looking Backward*. The numerous Nationalist Clubs formed with this end in view have since met the fate which was naturally predicted for them; and but very few now survive, much diminished in membership and in confidence in the realization of their vision. Mr. Bellamy himself established a weekly paper, *The New Nation*, in Boston, which led two or three years of rhetorical existence, and then ceased, like its predecessor, *The Nationalist* magazine. Those who had always recognized Mr. Bellamy's great gifts as an imaginative writer hoped that he would return to pure literature, and produce works which would redeem the promise held out by *Dr. Heidenhoff's Process* and *Miss Ludington's Sister*, and gain for their author a sure place in the front rank of American novelists. These hopes have been disappointed. Mr. Bellamy has apparently abandoned fiction, and has at length broken the silence of several years with a volume which is neither a novel nor a treatise on socialism in scientific form, but a prolonged reduplication of the monologues of Dr. Leete, the part of *Looking Backward* which had least interest for most of its readers.

Mr. Bellamy has reserved the right of dramatization, and his preface speaks of "the former story." But "story, God bless you!" *Equality* has "none to tell," any more than Canning's needy knife-grinder. There is no plot or incident in it, unless crossing Boston Common or attending a school examination in one of the Boston suburbs can be called incident. As for a drama to be founded on the book, all the parts in it would need to be omitted *except* that of Hamlet; for, whoever talks, the style is the same. Edith Leete, Julian West, Doctor Leete, the master or the pupils of the Arlington Grammar

School,— all employ the same rhetoric and logic. Any given page might be the report of the language of one or another of these. The monotony of style and reasoning is, indeed, surprising from an author of Mr. Bellamy's ingenuity; but characterization, as I formerly remarked, is not his forte. A work from his hand in which there is no attempt at portrayal of odd persons or relation of curious psychological complications takes him into a field remote from the sphere of his real talents. From the literary standpoint, *Equality* is hard reading; and, if established socialism is to produce many works of this order, the readers of the literature of power may well pray for the long postponement of its coming.

Nine years of most commendable absence from any seeking after notoriety by Mr. Bellamy, in which he has been quietly absorbed for the most part in developing his ideas, have done nothing to shake his confidence in their value. The four hundred closely printed pages of *Equality* contain no hint of a weakening of the robust self-esteem as a prophet which he formerly cherished. A considerable portion of the book is naturally occupied with describing the probable process of transition from the capitalistic régime of this century to the collectivism which is promised to be in full blast in fifty years. Like many other prophets of social change, Mr. Bellamy very greatly miscalculates the date of their arrival. Millenniums expected "by express to-morrow," the sagacious Hosea Biglow found, "will miscarry." If Americans of 1950 should not see collectivism triumphantly established, they might, perhaps, rationally expect it for the citizens of 2050 A.D., in view of actual processes easily interpreted. It would be only a slight fault in Mr. Bellamy if he simply anticipated by a century or two the sure coming of his ideal State. But he has more rashly made prophecies with equal confidence of what might be expected within ten years' time. In 1889 he declared that "the people of the United States will have virtually decided . . . within ten years . . . upon the choice between *Plutocracy* or *Nationalism*" on account of the monstrous iniquities of trusts. Eight years have gone by, and such a choice seems not to have been made nor to be a-making. On the contrary, the hysterics over trusts, which were so prevalent in 1889,

have subsided in great degree; and combinations of sellers are gradually being recognized as a natural and inevitable development of modern conditions, as much so as combinations of wage-earners. Both trade-unions and trusts need strict regulation in the interests of the public welfare; and this they will gradually receive, as hysteria and rhetorical denunciation subside, and coolness and science dominate the hour. One looks in vain in *Equality*, however, for any trace of effect upon Mr. Bellamy of sober studies of trusts, like those of Professor Jenks or Dr. Von Halle. In other directions the absence of maturer thought or wider information than before is also powerfully felt. The author remains, after nine years, a slave to sentimentalism and the ready captive of fallacies without number.

A careful reading of this new volume has shown no change of view on the author's part in any fundamental or important matter. The abundant elaboration of the sketch made in *Looking Backward* puts a few matters in a somewhat different light; but it only brings out more fully the contempt which Mr. Bellamy feels for all those who have had a thorough training in economics and politics, or who cherish respect for recognized authorities in either of these departments of knowledge. Says the serenely infallible Dr. Leete (pp. 21, 22): "It is a very sympathetic task to explain the slowness of the masses in feeling their way to a comprehension of all that the democratic idea meant for them; but it is one equally difficult and thankless to account for the blank failure of the philosophers, historians, and statesmen of your day to arrive at an intelligent estimate of the logical content of democracy and to forecast its outcome. . . . If your pedagogues, college professors, and presidents, and others who were responsible for your education, had been worth their salt, you would have found nothing in the present order of economic equality that would in the least have amazed you." At the examination of girls and boys, thirteen or fourteen years old, in the Arlington School, we learn that the so-called political economists, before the Revolution which brought in socialism, had, in truth, no "conception whatever" of what political economy is. The boy George, who gives this modest opinion, is asked if he has

ever "looked over any of the treatises which our forefathers called political economies." He answers that "the title of the leading work under that head was enough for me. It was called *The Wealth of Nations*. . . . What meaning could it [this title] conceivably have had as applied to a book written nearly a hundred years before such a thing as a national economic organization was thought of?"

The account of the state of things in our nineteenth century given by persons entertaining such an unflattering view of our economics and our economists may easily be imagined. For Mr. Bellamy this is a world of black and white only: there are no shades or neutral tints. We pass immediately from one extreme to another, and discrimination seems to have ceased to be needful. Competition we see, when unhindered, produces evil effects: therefore, all competition must be abolished. Co-operation is a good thing: therefore, let us conclude that it is the only good thing. Equality works well in politics (just how well Mr. Bellamy fails to inform us,—we hear little of Tammany or the boss system in these pages); therefore, let us have it everywhere. There is a remarkable accumulation of great wealth in a few hands to-day; therefore, the process must needs go on until the multitude are starving and billionaires are numerous. On no single subject can one find in *Equality* a discriminating and reasoned statement of good and bad in men or situations or tendencies. The naïveté of Mr. Bellamy's own economics is amusingly shown in his pages showing "how money lost its value" in the transition to collectivism (pp. 357, ff.). The government, it seems, had established "a public store system," by which "public employees could procure at cost all provisions of necessity or luxury previously bought at private stores. The idea was the less startling for not being wholly new. It had been the custom of various governments to provide for certain of the needs of their soldiers and sailors by establishing service stores at which everything was of absolutely guaranteed quality, and sold strictly at cost. [Can Mr. Bellamy be thinking of the Army and Navy coöperative stores in London?] At first the goods in these stores were of necessity bought by the government of the private capitalists, producers, or importers. On these

the public employee saved all the middlemen's and retailers' profits." Soon "the government added the function of production to that of distribution" by establishing great food and cotton farms, and starting innumerable shops and factories. The farmers were glad to make over their farms on condition of receiving steady employment, and the owners of factories that had long stood idle jumped at the offer of a very low rate of interest for their property. Now "ordinary money was not received in the public stores, but a sort of scrip cancelled on use and good for a limited time only. The public employee had the right of exchanging the money he received for wages, at par, into this scrip. While the government issued it only to public employees, it was accepted at the public stores from any who presented it. . . . It thus became a currency which commanded three, four, and five hundred per cent. premium over money, which would only buy the high-priced and adulterated goods for sale in the remaining stores of the capitalists. The gain of the premium went, of course, to the employees." This "was in the earlier stages of the transition. Toward the last the premium mounted to ever dizzier altitudes, until the value of money quite disappeared, it being literally good for nothing as money."

Mr. Bellamy has given his imagination equally free range in allotting \$4,000 per year as the equal share of each man, woman, and child in his Utopia (p. 29). If he were to divide the total income of the United States by the entire number of the population to-day, the result would be much nearer to \$400 than to \$4,000. How this sum could be multiplied ten-fold inside of fifty years or so he quite fails to point out. Undoubtedly there would be a notable decline in the number and importance of inventions in a socialistic state. If parents, by increasing the number of their family, could add \$4,000 for each child, the possession of a large number of children would be a much surer and easier path to comfort than the toilsome struggles of the inventor. Mr. Bellamy's closing pages are devoted to one of those triumphant refutations of Malthus so dear to the sentimentalist. It would seem a very simple problem, however, to imagine the effect of a state premium on population, such as the equal income guaranteed every

man, woman, and child. Here, as in many other directions, Mr. Bellamy bids a long farewell to human nature and its permanent tendencies for good or for ill, which make difficult, if not impossible, the erection of a socialistic state. He has all the marks of the dreamer and the doctrinaire. Witness his depreciation of the value of municipalization or nationalization of water-works, lighting plants, ferries, electric and steam railways, coal mines, and the liquor trade (p. 353). "Even if this entire class of businesses was made public and run at cost, the cheapening in the cost of living to the community thus effected would presently be swallowed up by reductions of wages and prices, resulting from the remorseless operation of the competitive profit system." The whole treatment of "natural monopolies" by Mr. Bellamy may be commended to the consideration of the labor unions that look upon him with admiration as an authority in economics.

For Mr. Bellamy there is one magic password to perfect happiness here below. Equality is that word. He seems to have no vision for the difficulties and dangers of political equality, which make philosophic observers maintain that democracy is still on trial before the world. He assumes its complete triumph and entire justification in all its results. Thus viewed, he presents it as the inevitable logical antecedent to complete industrial equality, the entire reversal of the present natural hierarchy of industry, where intellect and capital are foremost. Mr. Bellamy is so enamoured of equality for the workingman, however, that he actually subordinates the professional classes to them. Though entitled to vote, no member of a profession is eligible for the Presidency of his Utopia. This equality seems much like the "nothing but silence" that the Irish policeman demanded of his prisoner, "and mighty little of that!" Far from resembling freedom, as we conceive it, this Utopia is an industrial bureaucracy of the strictest pattern. Upon that ever-desirable equalization of the lot of the poor with standards of decency and comfort which comes from education, from the fullest encouragement of inventive and executive talent, from the greater moralization of all classes, he turns his back. *Excellence* is the far nobler watchword of a progressive civilization. To excel is to

be unequal, to leave the masses behind for a time. But the sure result of an individual's excellence is the slow or speedy profit of all, whether it be intellectual or moral or both. Equality is but a barren motto by the side of excellence. As conceived by Mr. Bellamy, it is an artificial contradiction of the multiformity of nature. It would be difficult to conceive a surer road to social stagnation than he has laid out in this volume. Before the eyes of the half-educated, indeed, the author will loom as an inspired guide; but, when they reach an elementary understanding of the meaning of regard for facts and for scientific method in handling them, he will be ranked as a false prophet. We may not unreasonably expect that the publication of *Equality* will hasten this process by the expansion into plainer view of the many errors maintained in *Looking Backward*.

NICHOLAS P. GILMAN.

THE STREET RAILWAY SITUATION IN CHICAGO.

The act relating to the street railway companies passed at the last session of the Illinois legislature, and popularly known as the "Allen-Humphrey bill," is perhaps as important an act as has ever been passed by the legislature of that State. The bills of which it is the outcome probably aroused more violent and universal opposition on the part of the people of Chicago, and called forth more charges and suspicions of legislative corruption and bribery, than any other in the history of the State.

The act nominally applies to all street-car companies in the State. This was necessary to avoid the constitutional prohibition of local and special legislation. But it was promoted solely by, and in the interests of, the three great companies operating respectively in the three grand divisions of Chicago, and reaching what is known as the "down-town" district.

The street-railway situation in Chicago was an extremely complicated one before; but, although the companies spent large sums of money to obtain this act, it is doubtful whether, in the shape in which it finally became law, it does not add new legal difficulties without clearing up many of the old. The situation to which it applied may be described as follows. The three great companies, the Chicago City Railway, the North Chicago Street Railway, and the West Chicago Street Railway (under several slight changes of name), operating in the south, north, and west divisions of the city respectively, have about 487 miles of road. The ten minor companies have about 281 miles, chiefly in the outskirts and suburbs of the city, making in all more than 700 miles of surface road. In addition there are five elevated roads, with 44 miles. Since, however, the three great surface roads reaching the down-town district control the situation (including the elevated roads), we may dismiss the other roads with the single remark that, although in some cases they are in nominal opposition

to the great companies, any legislation favorable to the latter would ultimately be also advantageous to the former, as it would enable them to make better terms when the inevitable consolidation came.

These three companies received their original charters from the State by special acts of the legislature of February 14, 1859, and February 1, 1861. The incorporators of the North and West Side systems obtained their first ordinances, for the use of the streets for twenty years, on August 16, 1858 (before incorporation), the city reserving the right to purchase all the property and rights of the company at the end of the period. Later ordinances for different parts of the city were usually granted for a like period and on similar conditions. Questions as to the right of the city to enter into such contracts with the companies led the legislature, by act of February 15, 1859, to legalize the contracts, past and future. May 15, 1859, the city granted an ordinance to the North Side company for twenty-five years, without the purchase clause. A similar grant for a like period was made to the West Side company July 30, 1863.

All charters granted for surface-street railway lines in this State, before the Allen-Humphrey act of 1897, were for "horse and dummy" lines only; and the whole network of cable and electric lines existed wholly outside the law. The only legal basis for their existence was the grant from the city of the right to use such motive power on the streets.

All ordinances granted by the city have limited fares to five cents, and have required the companies to pave and keep in repair the streets occupied for a width of eight feet for single track roads and sixteen feet for double track roads. Some recent ordinances have placed additional burdens on the companies in a few instances.

February 8, 1865, the legislature, wholly ignoring the rights of the city and every tradition of local autonomy, passed an act extending not only the charter of the City railway, but also all its privileges in the streets of Chicago, including the right to charge a five-cent fare for the whole period. This was the true progenitor of the Allen-Humphrey bill. The newspapers state that a petition against it was presented to

the governor, containing the name of every man who had a place of business in Chicago, except stockholders in the road. The bill called forth a vigorous veto from the governor, based chiefly on constitutional grounds, but was finally passed over the veto. By it the city was not prohibited from limiting future privileges to short periods. In fact, but few ordinances have ever been passed without a twenty-year limit. This remarkable act never reached the courts. Political pressure soon brought about its repeal. But, meanwhile, the company had acted under it, and has always claimed that the repeal was unconstitutional. In this vague form the claim has probably been worth much more to the street-car interests for purposes of negotiating with the city than if it had been formally upheld by the courts.

The practical importance of the act of 1865, or of its repeal, was not great; for by its title and express terms it referred only to horse and dummy roads, which have largely disappeared. Then, too, any one of the great systems would be paralyzed without the later ordinances, which, since 1874, by a general law entitled "an act in regard to horse and dummy railroads," have been limited to twenty years. The mileage at the time of the passage of the act of 1865 is not known, but as late as 1888 the total length of road in Chicago is said not to have exceeded sixty miles.

It was hoped that many provisions of the charters and ordinances would be cleared up when the legality of the ordinance of April 1, 1878, levying an annual car license of fifty dollars a car on the companies, came before the courts for interpretation. The State courts, however, upheld this charge on the ground of the police power, and avoided interpreting the charters and contracts of the companies. The case was appealed to the Supreme Court of the United States, but never came to trial. The companies concluded that a favorable compromise and truce for twenty years, with the possibility of appeal to the legislature in the mean time, was better than the probability of an unfavorable decision on both the acts of 1865 and the license-fee ordinance. Therefore, under the leadership of the late Mayor Harrison, on August 6, 1888, a blanket ordinance, extending all the street privileges

for a period of twenty years, was passed, the legal rights of the respective parties under previous ordinances being expressly reserved for settlement after the expiration of this grant. In return for this ordinance the companies agreed to pay the expenses of litigation, the license fee during the twenty years of the extension, and half the fees claimed by the city as past due; provided that, instead of a tax on the actual number of cars in use, the number of cars to be taxed annually should be one-thirteenth of the average daily car trips made by the respective companies for the year.

The following table, giving the nominal share capital and other obligations of the several companies, will give some idea of the magnitude of the interests involved. The figures are in millions of dollars.

	Shares.	Other obligations.	Total.
Three great companies	31.7	29.9	61.6
Ten minor companies	13.3	10.8	24.1
Five elevated companies	52.5	49.1	101.6
	97.5	89.8	187.3

For many years the great companies have paid what seemed to the public excessive dividends on even their nominal capital, much of which is generally supposed to be water. This, among other things, tended to strengthen the movement for some radical change,—public ownership, or three-cent fares, or heavier payments by the companies to the city. The popular hostility, combined with the serious doubts as to the legal status under previous legislation and especially as to the right to operate with electricity or cable, made it appear to the companies that some legislation in their interest was necessary to maintain the value of their investments, and to secure the funds necessary for extensions and for the control of minor and subsidiary companies. As the companies said, in calling attention to the sums they would have to pay to the city under the proposed legislation: “Why this gratuity on the part of the street railways? Simply to ‘quiet titles’ and settle unnecessary and frequent disputes and controversies, and to encourage investors and permanent improvements, establish a feeling of security, and be permitted without harassing influences to conduct business and help the municipality and its people.”

The proposed legislation was introduced into the Senate (bills Nos. 149 and 150) February 17, 1897. The substitutes for these bills (Nos. 148 and 250) were reported by the Committee on Railroads March 19. Bill No. 148 placed the street-car companies of the State under a board of three Commissioners, appointed by the Governor and confirmed by the Senate for a term of fifteen years, with an office at Springfield. The Commission was to be renewed one-third at a time. Commissioners' salaries were to be \$1,500, and the clerk's salary \$1,000, with a lump sum not to exceed \$400 per year for rent, stationery, and incidental expenses. The Commission was to fix the rates of fare for passengers and the charges for express matter, and to determine what parcels should be carried; but in no case where a maximum rate of fare was already fixed by any statute or ordinance "or any extension thereof" could the Commission act on the subject of fares. City councils were forbidden to consider any application for any new street-car line or extension except on the recommendation of this Commission. The grant for any such line must be made to the Commission and sold by it at auction, all purchase money to be paid within five days. Power was to be given to the Commission to compel sworn reports from the companies, but not to examine their books and accounts.

The second bill aimed to repeal the "horse and dummy" act, to authorize specifically the use of any motive power, except steam, permitted or to be permitted by the local authorities, and to allow the carrying of packages, parcels, and mail. The companies were granted the right of eminent domain; but one company was forbidden to condemn or even to use any portion of the road of another company, except with the permission of the other company. This clause was so vaguely drawn that in all probability it would have made it impossible for one company to lay its tracks across the tracks of another without permission from the latter. One section was so drawn as, apparently, to prevent the city from proceeding with the elevation of the steam railway tracks, or even changing the grade of any street in the vicinity of any street-car tracks, without paying full damages to the street-car company. The bill authorized cities to grant privileges to the companies for

fifty instead of twenty years, and expressly extended all existing ordinances for fifty years. Fares were fixed for the full term of fifty years at five cents. All ordinances passed and to be passed were, in the strongest language, declared to be contracts, and irrevocable by the city. In lieu of all other municipal charges, except ordinary taxes, the companies were to pay the city 3 per cent. of "gross earnings"; but no adequate provision was made for determining the amount of gross earnings. General consolidation was authorized of all the companies in the State, provided they were not "parallel or competing."

Popular opposition to the bills was intense, almost reaching the stage of riot and mob violence. Consequently, to save the bills, the companies gave up a few of their most unpopular features. The amended bills passed the Senate, April 16, by a vote of 29 to 16, and were reported to the House, read the first time, and ordered to the second reading the same day. The terms of the Commissioners were to be but four years, all going out at once, with no provision for confirmation by the Senate in the case of the first appointees. Street railways were classified according to the population of the counties in which they were situated, and were to pay, for the fifty-year extension of privileges, from 1 to 2 per cent. the first fifteen years, 5 per cent. the next twenty years, and 7 per cent. the remaining fifteen years; while city councils might fix the compensation for any new grants. This percentage was not in lieu of all other payment, except when the payments by existing ordinances were less than this sum. Specific right of one company to cross the tracks of another was granted.

The bills were soon disposed of by the House by striking out the enacting clauses on second reading, May 12, the vote being 123 to 29, with but one absent member. The street-car interests now gave up all hope of a State Commission, and bent their energies to drafting a bill for the extension of their privileges, and for a municipal commission to keep out rival companies. With this end in view, they appeared before the House Judiciary Committee, May 19, with the draft of a new measure, afterwards known as the Allen bill (House No. 714). In the face of such opposition as they had encountered under

the cry of "home rule for Chicago," they thought best to make a show of having larger powers in the hands of the council. The new bill contained no reference to packages or parcels. All present ordinances were extended for thirty-five years only. The five-cent fare was fixed for twenty years, with power in the council to determine the motive power to be used on all lines, and to fix a reasonable rate and determine the compensation to be paid for extensions. The Mayor, City Clerk, and City Attorney were constituted a Board, upon whose recommendation alone a new company could be granted rights by the City Council; but no action by this Board was required for the extension of the lines of existing companies.

By the time this bill got before the House, enthusiasm had begun to lag; but the fight was kept up in the House. The bill was reduced to forty-four lines, and had a referendum clause attached to its most important section. In this emasculated form it passed the House June 1. Although its champions kept up a formal fight against the amendments, it is possible that in the then state of public feeling it seemed best to them to allow the bill to pass the House in this form, and thus throw their opponents off their guard; then to amend the bill in the Senate to suit themselves, and, finally, "jam" these amendments through the House during the confusion of the last hours of the session. It was known that the Senate was ready to pass anything the companies asked, and the date for final adjournment was already set for June 4. The bill could hardly have been accepted by the companies as it passed the House. It was sent to the Senate on the same day, and referred to the Committee on Corporations. The next day the Committee reported it with amendments, which were promptly adopted. The bill was ordered to a second reading, made a special order for the next morning, and finally passed the Senate, June 4, by a vote of 81 to 18. It was already the last day of the session. The opposition was disorganized, and the House in utter confusion. The House concurred in the Senate amendments during the last hours of the session by a vote of 82 to 70, only one member, a Populist, failing to respond to the roll-call.

The bill, as it received the governor's signature, allows the

local authorities to grant locations to street-car companies for fifty years; but no such grant shall be made to new roads except upon the petition of a majority in interest of the owners of the abutting property along each mile and additional fraction of a mile of the proposed route. There are some curious, vague, and perhaps unconstitutional provisions in regard to revocations of signatures to such petitions. The petition of such property owners is not required for the renewing of ordinances already granted for the laying of tracks. In the case of the extension or renewal of any ordinance now in force the fare must be five cents during the first twenty years, provided that in no case shall the fare be fixed in future by the local authorities for a longer period than twenty years. In any future new ordinances the local authorities may fix the rate of fare; but, when once fixed, such fare cannot be lessened by ordinance for twenty years. Consolidations on exactly the lines laid down in the original Humphrey bills is authorized. The carriage of mail is authorized, but not that of packages.

The act is not so favorable to the companies as the defeated bills, and it has some desirable provisions. Whether it gives the companies the fixity of tenure and the assured monopoly which they hoped for is not certain. Appeals both to the city council and to the legislature are probable, especially as under its terms action on the part of the former is needed. For the present it stands as the outcome of the heated contest of the session.

JOHN H. GRAY.

NORTH-WESTERN UNIVERSITY.

THE *Rivista Italiana di Sociologia*, whose appearance was referred to in the last issue of this *Journal*, has now become the sole Italian periodical in its field, its predecessor, the *Rivista di Sociologia*, having been discontinued. The *Rivista Italiana* maintains a high level of excellence, and will command the attention of all students of its special subjects.

AMONG the publications of the quarter we note the third volume of Professor Cohn's *System der National-oekonomie* and the second volume of Professor Nicholson's *Principles of Political Economy*. Two books of reference on social questions, which have been appearing in parts, are now completed: the *Cyclopaedia of Social Reforms*, edited by Mr. W. D. P. Bliss; and the *Handbuch des Socialismus*, edited by Messrs. Hugo and Stegman.

DURING the quarter just elapsed the resignation of President Andrews of Brown University, now happily withdrawn, raised once more some questions as to the relations between the governing boards and the administrators and teachers of our universities; and the incident deserves to be put on record, aiding, as it did, to clear the general situation, and finally to uphold the principle of freedom in thought and expression.

On June 17 a committee was appointed by the Corporation of the university to confer with the President regarding "the best interests of the university." Such a conference was held some weeks later; and, as is common with verbal interviews, there proved to be varying recollections of what then passed. But the community was informed of the situation through the publication, in July, of a formal written communication which had been presented by the committee of conference to the

President, and of the letter of resignation which he had sent to the Corporation. The committee's communication stated that the reason for its appointment was dissatisfaction with the President's views on the free coinage of silver, and that it was hoped he would refrain from "promulgating" these views. The ground stated for this request was a fear that the course of the President would prevent an inflow of gifts and legacies, and would deprive the institution of needed pecuniary support; the reference to the loss of gifts and legacies being doubtless meant to indicate that it was in his capacity as administrative head rather than as teacher that the President was requested to refrain from stating his views on the mooted question. On the other hand, the highest appreciation was expressed as to his general services as administrator, and "for him, personally, the warmest admiration and regard."

The case thus stated raised simply and solely the question of the propriety of regulating the expression of opinions on public questions by an academic officer of admitted zeal, ability, and competence for his task. On that question, no distinction could be made between the case of president and professor; nor could any other answer be given than a flat negative. Hence opinions were offered with a freedom that would not have been warranted, had the question been one simply as to the mode in which Brown University was to be administered. A brief memorial, expressing the opinion "that the future influence of American universities and the interests of free thought and free speech under a just sense of responsibility would be promoted by such action on the part of the Corporation as might naturally lead to the withdrawal of the resignation of President Andrews," was signed by the presidents of a number of universities (among them Johns Hopkins, Harvard, Columbia, Wisconsin, Dartmouth), by many professors, and by men of eminence in affairs and in public life. A letter signed by teachers of economics from all parts of the country expressed an earnest hope for such action as would "uphold and affirm, without possibility of misunderstanding, the principle of academic freedom." And an open letter, addressed to the Corporation by a large num-

ber of the members of the faculty of the institution, pleaded for the maintenance of "its honorable and priceless traditions of academical freedom."

At the meeting of the Corporation on September 1 resolutions were passed asking President Andrews to withdraw his resignation, and stating that "it was not and is not the purpose of the Corporation in this matter to interfere with or abridge your independence of individual thought or expression." The previous action of the Corporation had "removed the misapprehension that your individual views on this question represent those of the Corporation and the university." President Andrews accordingly, after a brief delay due to other engagements entered on in the mean while, withdrew his resignation.

The sound principle in cases of this sort, we conceive, can be very briefly stated. The utterances of a president or professor, whether in the class-room or out of it, are not matters to which the governing board of an institution of learning must be indifferent. They are evidence of conduct and capacity; but evidence only, to be used with all the other evidence bearing on the competence of the individual for the tasks intrusted to him. In the language of one of the communications addressed to the Corporation of Brown University in this case, "no questions should enter except as to capacity, faithfulness, and general efficiency in the performance of appointed duty." On these qualities the public utterances of an individual may throw light, and are to be considered only in so far as they throw light. It must always be dangerous, and must open the door to abuse of power as well as to misconception of the aim in view, if inquiry is made as to the opinions expressed by an academic officer on disputed public questions; but, if such inquiry is made with a view to secure evidence as to fitness for the appointed tasks, the question becomes simply one of expediency in entering on it and good faith in carrying it out. But where general competence is freely admitted, and only the statement of certain specific opinions is subjected to criticism, the principle of freedom is at stake; and the only sound

policy is that which the Corporation of Brown University followed in the end, and, indeed, may be fairly presumed to have had in mind from the start.

THE Workmen's Compensation Act, passed in the last session of the English Parliament, marks an entirely new departure in social legislation. It provides a method of compensation for accidents which differs alike from the attempts heretofore made in England to enforce employers' liability and from the German scheme of compulsory insurance. The text of the important parts of the act is printed in the Appendix. It may be of service to present here a summary statement of its provisions, together with some memoranda as to the discussion on certain of the points involved.

For every accident in the course of a workman's employment the employer is made liable to pay compensation, provided that the accident is such as to disable the workman for at least two weeks from earning full wages. The civil liability of the employer, nevertheless, for personal negligence or wilful act, remains undisturbed, and a workman may still, if he chooses, take such action as was open to him before this act; while, on the other hand, compensation cannot be obtained for an accident attributable to the workman's own serious and wilful misconduct. The amount of compensation under the act is to be settled by arbitration, either by consent or by the intervention of the county court, within the limits of a scale (set forth in the First Schedule), giving in the case of fatal injury to a man leaving dependants either £150 or three years' wages (whichever sum be the larger), and, in case of disablement, half the weekly wages so long as disability continues. In case of an accident to a workman in the service of a sub-contractor the liability is made to rest on the original "undertaker"; and this not only as to compensation under the act, but also in respect of personal negligence or wilful act independently of it. Thus the doctrine of "common em-

ployment" is incidentally abolished. "Contracting out" is permitted only where the Registrar of Friendly Societies certifies that the advantages of a scheme of benefit or insurance, which the employer proposes to substitute for the liability under the act, are not less than those offered by the act; but no scheme is to be certified which contains an obligation on the part of workmen to accept it as a condition of hiring. The act is made to apply only to workmen in railways, factories, mines, quarries, or engineering works, and on building works where there are scaffoldings above thirty feet high or in which machinery is employed. For the present, therefore, neither merchant shipping, agriculture, nor domestic service comes within its scope.

The act raises many points of theoretical and practical interest. The quotations which follow from the speeches of the ministers responsible for the measure will cast some light on the most important issues involved. Those from Mr. Chamberlain, the real author of the act, are especially noteworthy.*

1. The measure proceeds on a principle altogether different from that of the existing Employers' Liability Acts, in that it does not impose penalties upon employers for negligence, but casts upon them the burden of compensation in all cases of accident, without inquiry as to the default of either party except in extreme cases.

Sir M. W. Ridley, the Home Secretary, on introducing the bill, explained that its principle was the same as that of the amendment moved by Mr. Chamberlain to Mr. Asquith's abortive Employers' Liability Bill of 1893, and thus stated it:—

"The serious results of accidents cannot be held to be adequately met by merely giving the workman a right of action in respect of the negligence of an employer, or of any person for whom he was responsible; and it is felt that the workman or his representatives ought to have a right to compensation at the expense not of the rates or of public charity, but of the industry in which he was engaged."

* The quotations are from the reports of the Parliamentary debates in the *Times*: unless otherwise stated, from the issue of May 4.

2. It also differs from the German Accident Insurance legislation in that the liability rests upon the individual employer, and not upon an association of employers.

Mr. Chamberlain: "On the whole, the German scheme has given satisfaction; and I believe it justifies us in carrying out a somewhat similar experiment. But it is not possible for us to adopt one part of the German scheme. . . . There the insurance is paid not by the individual employers, but by an association of employers formed for the purpose. The association can exercise a certain control over its individual members, and in that way it does something for prevention. But I do not imagine that even my right honorable friend would suggest that in this country it would be possible, or, if possible, that it would be desirable, to force everybody in a particular trade into an association of this kind. The elaboration of the system, its bureaucratic tendency, and the arbitrary interference of officials are all matters that are so objectionable to English people, and especially to those who have been enabled to carry on their undertaking without any interference of the kind, that I believe it is absolutely impossible and absolutely impracticable to attempt any system of operations of that kind; and we have to fall back on the fact, so far as the pecuniary liability is concerned, either that the employer should take the liability upon himself, as I believe will happen in the vast number of cases, or, if he has taken an insurance, the insurance company will exercise something of that supervision which is now exercised by the associations in Germany."

3. As to the possible effect of the act in putting England at a disadvantage as compared with her foreign competitors, it was maintained by the ministers (a) that the burden was similar to that already imposed in other countries, (b) that the act would diminish the cost of litigation, (c) that the cost of the liability would, in most cases, be insignificant. Mr. Chamberlain stated his belief that "coal-mining is the most dangerous industry, and even in that case the maximum of liability is not likely to exceed 1 per cent. on the wages. But, when you come to the ordinary manufactures and engineering employment, . . . the cost is very much less; and I believe it will be measured by 1s. or 2s. per cent. on the wages."

4. It is anticipated that the liability will be met, to some degree, by the extension of insurance among employers. But it is supposed that this will be the case chiefly among mine-owners. To quote Mr. Chamberlain once more: "Except in certain cases where accidents occur of a wholesale character, such as mines, I believe it will be in the interests of the employer not to insure under our bill, because the liability is fixed and definite, and because it will be cheaper for them to provide the insurance themselves."

5. As to the ultimate incidence of the burden, it was maintained on the part of the ministry that it would become an addition to the cost of production, while some of their critics argued that it would fall, for the most part, upon wages.

Mr. Asquith, Home Secretary in the late Liberal ministry, expressed his opinion that "a larger share of the burden under existing economic conditions will fall upon wages, and that neither in the shape of an added price to be taken from the consumer nor a diminished profit from the employer will workmen obtain the benefit resulting from schemes of this kind. . . . I do not say that this is in the least degree an objection." To which Mr. Chamberlain replied that, if this were so, "every addition to the cost of manufacture must come out of wages, which, I think, will reduce the argument to an absurdity." He added that he did not believe that the German system had had any effect in lowering wages. "The rate of wages has been advancing in Germany, as in other countries."

6. The most serious opposition to the measure was offered by the colliery proprietors of both political parties, who protested that the pressure of the new liability might easily become ruinous.

7. The leaders of the Opposition, while supporting the general principle of the bill, argued that, owing to the failure of the measure to meet the case of insolvency on the part of the employer, it would necessarily lead in the end to a system of state insurance.

8. Comparatively little discussion took place, during the passage of the bill, as to its relation to "individualist" or "socialist" principles. But the criticism of the president of

the Liberty and Property Defence League, Lord Wemyss, led the Marquis of Salisbury to draw a distinction between legislation affecting life and legislation merely affecting property:—

There is a great danger of socialism in the present day. It is an inclined plane down which we are tending to move, it is a snare which we should avoid in all our legislation; but it is possible to cry, "Wolf!" when there is no wolf, and, if you perpetually cry out "Socialism!" whenever an act for the benefit of the people is introduced, you do not weaken the socialistic propaganda by so doing. On the contrary, you destroy the argument which will be used against it; and you give to every socialist reasoner a basis for saying that the arguments against his views are simply imaginary, and pointing to your own extravagances as his proof. . . . To my mind, the line which is to be drawn in dealing with State interference is largely affected, if not entirely governed, by the question whether you are saving property or saving life. . . .

Where property is in question, I am guilty, like him, of erecting individual liberty as an idol, and of resenting all attempts to destroy or fetter it; but, when you pass from liberty to life, in no well-governed State, in no State governed according to the principles of common humanity, are the claims of mere liberty allowed to endanger the lives of the citizens. . . . The State has a right, and it is the duty of the State, to see to those interests which are represented by safety of life and limb in all its citizens; and the claims of property to be free from interference, however high you put those claims, must bow and give way at once if the lives of the citizens of the State are in question. . . .

The interference of the State, judiciously and carefully applied and with due circumspection, without fanaticism, hurry, or passion, may have a most enormous and most salutary and gratifying result in exalting the health and increasing the happiness of the people.*

W. J. A.

**The Times*, July 30, 1897.

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[Chiefly published or announced since July, 1897.]

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APPENDIX.

TABLES ON BANKS IN THE WEST.

NORTH DAKOTA.

[88 BANKING TOWNS, 100 BANKS. (Private banking prohibited.)]

CAPITAL.	STATE (June 27, 1896).							NATIONAL (October 6, 1896).							TOTALS ALL BANKS.	
	POPULATION.						TOTALS.	POPULATION.						TOTALS.		
	Not over 500.	Not over 1,000.	Not over 2,000.	Not over 3,000.	Not over 4,000.	Not over 5,000.		Not over 500.	Not over 1,000.	Not over 2,000.	Not over 3,000.	Not over 4,000.	Not over 5,000.	Not over 10,000.		
Not over \$5,000....	13	1	...	...	...	...	14	...	...	...	...	...	...	...	...
" 10,000....	30	3	...	...	...	...	33	...	...	...	...	...	...	...	33
" 15,000....	4	3	...	...	...	...	7	...	...	...	...	...	...	...	7
" 20,000....	3	2	1	...	...	...	6	...	...	...	...	...	...	...	6
" 25,000....	2	3	...	...	...	...	5	...	...	...	...	...	...	...	5
" 30,000....	1	...	1	...	...	...	2	...	...	...	...	...	...	...	2
" 40,000....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" 50,000....	...	2	...	...	...	...	2	1	11	7	1	2	...	22	24
" 75,000....	...	1	...	...	...	...	1	...	1	...	1	2	2	1	2
" 100,000....	...	...	...	...	...	1	1	...	...	1	...	2	2	5	6
Over 100,000....	...	...	...	...	...	...	...	...	...	...	1	...	1	1	1
Totals	52	15	2	1	...	1	71	1	12	7	2	...	5	2	29	100

SOUTH DAKOTA.

[111 BANKING TOWNS, 177 BANKS.]

PRIVATE (June 6, 1886).		STATE (June 6, 1886).		NATIONAL (October 6, 1886).	
POPULATION.		POPULATION.		POPULATION.	
CAPITAL.				TOTALS.	
Not over 500.	18	3	2	21	25
" 10,000....	10	2	1	15	23
" 15,000....	8	3	1	11	7
" 20,000....	2	2	1	4	4
" 25,000....	2	1	1	1	1
" 30,000....	1	3	1	7	11
" 40,000....	1	2	1	5	3
" 50,000....	1	2	1	1	1
" 75,000....	1	2	1	1	1
" 100,000....	1	2	1	1	1
Over 100,000....	...	...	...	...	...
Totals	41	17	7	2	1
Not over 500.	47	37	18	18	18
" 10,000....	37	18	8	8	8
" 15,000....	18	8	8	8	8
" 20,000....	8	4	4	4	4
" 25,000....	8	4	4	4	4
" 30,000....	18	8	8	8	8
" 40,000....	4	2	2	2	2
" 50,000....	4	2	2	2	2
" 75,000....	4	2	2	2	2
" 100,000....	4	2	2	2	2
Over 100,000....	1	1	1	1	1
TOTALS .	47	37	18	18	18
Not over 500.	5	3	2	2	2
" 10,000....	5	3	2	2	2
" 15,000....	3	2	2	2	2
" 20,000....	2	1	1	1	1
" 25,000....	2	1	1	1	1
" 30,000....	2	1	1	1	1
" 40,000....	2	1	1	1	1
" 50,000....	2	1	1	1	1
" 75,000....	2	1	1	1	1
" 100,000....	2	1	1	1	1
Over 100,000....	1	1	1	1	1
TOTALS .	47	37	18	18	18
Not over 500.	5	3	2	2	2
" 10,000....	5	3	2	2	2
" 15,000....	3	2	2	2	2
" 20,000....	2	1	1	1	1
" 25,000....	2	1	1	1	1
" 30,000....	2	1	1	1	1
" 40,000....	2	1	1	1	1
" 50,000....	2	1	1	1	1
" 75,000....	2	1	1	1	1
" 100,000....	2	1	1	1	1
Over 100,000....	1	1	1	1	1
TOTALS .	47	37	18	18	18

KANSAS.

[886 Banking Towns, 507 Banks.]

CAPITAL.	PRIVATE (September 1, 1890).										STATE (September 1, 1890).										NATIONAL (October 6, 1890).										
	POPULATION.					POPULATION.					POPULATION.					POPULATION.					POPULATION.					POPULATION.					
Not over \$5,000.	24	9	4	1	...	1	39	22	8	4	1	3	...	...	...	38	...	...	...	...	...	...	...	...	...	77	...	...	...	...
" 10,000.	11	11	5	3	1	...	31	40	19	4	1	3	...	...	1	68	...	...	...	...	...	...	...	...	...	...	...	...	...	99	...
" 15,000.	2	4	4	1	...	...	12	17	17	2	2	1	1	...	1	39	...	...	...	...	...	...	...	...	...	...	...	...	...	51	...
" 20,000.	4	4	1	1	...	1	11	8	14	6	1	1	1	...	1	32	...	...	...	...	...	...	...	...	...	...	...	...	...	43	...
" 25,000.	3	4	1	1	...	...	9	11	8	6	1	3	2	2	2	33	...	...	...	...	...	...	...	...	...	...	...	...	...	42	...
" 30,000.	1	...	...	...	...	...	1	1	3	6	5	1	1	...	1	17	...	...	...	...	...	...	...	...	...	...	...	...	...	18	...
" 40,000.	...	...	...	...	...	...	1	1	1	5	2	...	...	...	1	9	...	...	...	...	...	...	...	...	...	...	...	...	...	10	...
" 50,000.	...	...	...	...	...	...	1	1	2	1	6	12	6	1	2	3	31	3	11	20	14	14	8	1	71	...	104	...			
" 75,000.	...	1	...	1	...	...	1	1	1	4	1	1	1	1	1	7	...	...	5	1	3	...	...	1	...	...	...	...	9	17	...
" 100,000.	...	1	...	1	...	...	1	1	1	1	2	1	1	1	1	2	2	2	...	...	1	6	4	...	...	12	9	33	...		
Over 100,000.	...	...	...	...	...	...	1	1	1	1	1	1	1	1	1	1	2	2	2	...	...	1	1	1	1	1	8	10	13	...	
Total.	45	33	17	5	5	...	2	2	109	103	85	41	19	14	...	8	12	282	3	11	26	16	21	...	21	18	116	507			

MISSOURI.

[298 BANKING TOWNS, 652 BANKS.]

CAPITAL.	PRIVATE (April 11, 1890).										STATE (April 11, 1890).										NATIONAL (February 28, 1890).										
	POPULATION.					POPULATION.					POPULATION.					POPULATION.					POPULATION.					POPULATION.					
Not over \$5,000.	22	10	2	1	1	3	40	4*	...	...	...	12	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" 10,000.	18	9	6	1	1	1	36	84	30	...	...	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
" 15,000.	2	2	2	3	3	4	21	27	8	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" 20,000.	2	5	5	3	3	1	11	17	21	8	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" 25,000.	1	1	1	1	1	3	5	12	20	8	2	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" 30,000.	1	1	1	1	1	1	1	7	11	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" 40,000.	1	1	1	1	1	1	3	4	7	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" 50,000.	1	1	1	1	1	2	2	2	7	13	12	1	12	7	3	57	2	9	4	2	1	7	25	25	25	25	25	25	25	25	25
" 75,000.	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" 100,000.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Over 100,000.
Totals.	45	27	12	4	2	2	5	99	187	110	97	44	10	30	22	36	486	...	2	13	5	2	14	26	67	652	...	...	

*As \$10,000 is by law the minimum capital of State banks, these are presumably institutions so recently organized that only half their capital is yet paid in.

NEBRASKA.

[342 Banking Towns, 526 Banks.]

CAPITAL.	PRIVATE (December 31, 1896).		STATE (December 31, 1896).		NATIONAL (October 6, 1896).		TOTALS ALL BANKS.
	POPULATION.	POPULATION.	POPULATION.	POPULATION.	POPULATION.	POPULATION.	
Not over \$5,000.	10	3	13	32	2	1*	35
" 10,000.....	23	9	35	63	16	1	80
" 15,000.....	7	3	11	40	15	7	69
" 20,000.....	2	6	8	16	12	5	34
" 25,000.....	2	1	5	13	14	8	23
" 30,000.....	1	2	5	6	9	7	23
" 40,000.....			1	5	6	2	14
" 50,000.....			1	3	6	1	28
" 75,000.....			1	1	4	2	13
" 100,000.....			1	1	2	1	6
Over 100,000.....					2	1	1
Totals.....	45	25	9	1	1	1	332
				81	178	81	6
					42	13	14
					3	7	36
						8	18
							10
							19
							113
							526

*This bank is in "East" Omaha, the population of which has not been ascertained apart from that of Omaha itself.

THE ENGLISH WORKMEN'S COMPENSATION ACT.

(60 and 61 Victoria, chapter 37. 6 August, 1897.)

AN ACT TO AMEND THE LAW WITH RESPECT TO COMPENSATION
TO WORKMEN FOR ACCIDENTAL INJURIES SUFFERED IN THE
COURSE OF THEIR EMPLOYMENT.*Be it enacted . . .*

1. (1) If in any employment to which this act applies personal injury by accident arising out of and in the course of the employment is caused to a workman, his employer shall, subject as herein-after mentioned, be liable to pay compensation in accordance with the First Schedule to this act.

(2) Provided that:—

(a) The employer shall not be liable under this act in respect of any injury which does not disable the workman for a period of at least two weeks from earning full wages at the work at which he was employed;

(b) When the injury was caused by the personal negligence or wilful act of the employer, or of some person for whose act or default the employer is responsible, nothing in this act shall affect any civil liability of the employer, but in that case the workman may, at his option, either claim compensation under this act or take the same proceedings as were open to him before the commencement of this act; but the employer shall not be liable to pay compensation for injury to a workman by accident arising out of and in the course of the employment both independently of and also under this act, and shall not be liable to any proceedings independently of this act, except in case of such personal negligence or wilful act as aforesaid;

(c) If it is proved that the injury to a workman is attributable to the serious and wilful misconduct of that workman, any compensation claimed in respect of that injury shall be disallowed.

(3) If any question arises in any proceedings under this act as to the liability to pay compensation under this act (including any question as to whether the employment is one to which this act applies), or as to the amount or duration of compensation under this act, the question, if not settled by agreement, shall, subject to the provisions of the First Schedule to this act, be settled by arbitration, in accordance with the Second Schedule to this act.

(4) If, within the time hereinafter in this act limited for taking proceedings, an action is brought to recover damages independently of this act for injury caused by any accident, and it is determined in such action that the injury is one for which the employer is not liable in such action, but that he would have been liable to pay compensation under the provisions of this act, the action shall be dismissed; but the court in which the action is tried shall, if the plaintiff shall so choose, proceed to assess such compensation, and shall be at liberty to deduct from such compensation all the costs which, in its judgment, have been caused by the plaintiff bringing the action instead of proceeding under this act.

[Certificate of compensation and deduction for costs is provided for.]

(5) Nothing in this act shall affect any proceeding for a fine under the enactments relating to mines or factories, or the application of any such fine; but, if any such fine, or any part thereof, has been applied for the benefit of the person injured, the amount so applied shall be taken into account in estimating the compensation under this act.

2. (1) Proceedings for the recovery under this act of compensation for an injury shall not be maintainable unless notice of the accident has been given as soon as practicable after the happening thereof and before the workman has voluntarily left the employment in which he was injured, and unless the claim for compensation with respect to such accident has been made within six months from the occurrence of the accident causing the injury, or, in case of death, within six months from the time of death. Provided always that the want of or any defect or inaccuracy in such notice shall not be a bar to the maintenance of such proceedings if it is found in the proceedings for settling the claim that the employer is not prejudiced in his defence by the want, defect, or inaccuracy, or that such want, defect, or inaccuracy was occasioned by mistake or other reasonable cause.

(2) Notice in respect of an injury under this act shall give the name and address of the person injured, and shall state in ordinary language the cause of the injury, and the date at which it was sustained, and shall be served on the employer, or, if there is more than one employer, upon one of such employers.

[(3), (4), and (5) define what constitutes the serving of notice.]

3. (1) If the Registrar of Friendly Societies, after taking steps to ascertain the views of the employer and workmen, certifies that any scheme of compensation, benefit, or insurance for the workmen of an employer in any employment, whether or not such scheme

includes other employers and their workmen, is on the whole not less favorable to the general body of workmen and their dependants than the provisions of this act, the employer may, until the certificate is revoked, contract with any of those workmen that the provisions of the scheme shall be substituted for the provisions of this act, and thereupon the employer shall be liable only in accordance with the scheme; but, save as aforesaid, this act shall apply notwithstanding any contract to the contrary made after the commencement of this act.

(2) The Registrar may give a certificate to expire at the end of a limited period, not less than five years.

(3) No scheme shall be so certified which contains an obligation upon the workmen to join the scheme as a condition of their hiring.

(4) If complaint is made to the Registrar of Friendly Societies by or on behalf of the workmen of any employer that the provisions of any scheme are no longer on the whole so favorable to the general body of workmen of such employer and their dependants as the provisions of this act, or that the provisions of such scheme are being violated, or that the scheme is not being fairly administered, or that satisfactory reasons exist for revoking the certificate, the Registrar shall examine into the complaint, and, if satisfied that good cause exists for such complaint, shall, unless the cause of complaint is removed, revoke the certificate.

(5) When a certificate is revoked or expires, any moneys or securities held for the purpose of the scheme shall be distributed as may be arranged between the employer and workmen, or as may be determined by the Registrar of Friendly Societies in the event of a difference of opinion.

(6) Whenever a scheme has been certified as aforesaid, it shall be the duty of the employer to answer all such inquiries, and to furnish all such accounts in regard to the scheme as may be made or required by the Registrar of Friendly Societies.

(7) The Chief Registrar of Friendly Societies shall include in his annual report the particulars of the proceedings of the registrar under this act.

4. Where, in an employment to which this act applies, the undertakers as hereinafter defined contract with any person for the execution by or under such contractor of any work, and the undertakers would, if such work were executed by workmen immediately employed by them, be liable to pay compensation under this act to those workmen in respect of any accident arising out of and in the course of their employment, the undertakers shall be liable to pay to any workman employed in the execution of the work any com-

pensation which is payable to the workman (whether under this act or in respect of personal negligence or wilful act independently of this act) by such contractor, or would be so payable if such contractor were an employer to whom this act applies.

Provided that the undertakers shall be entitled to be indemnified by any other person who would have been liable independently of this section.

This section shall not apply to any contract with any person for the execution by or under such contractor of any work which is merely ancillary or incidental to, and is no part of, or process in, the trade or business carried on by such undertakers respectively.

5. (1) Where any employer becomes liable under this act to pay compensation in respect of any accident, and is entitled to any sum from insurers in respect of the amount due to a workman under such liability, then in the event of the employer becoming bankrupt, or making a composition or arrangement with his creditors, or if the employer is a company of the company having commenced to be wound up, such workman shall have a first charge upon the sum aforesaid for the amount so due; and the judge of the county court may direct the insurers to pay such sum into the Post-office Savings Bank in the name of the registrar of such court, and order the same to be invested or applied in accordance with the provisions of the First Schedule hereto with reference to the investment in the Post-office Savings Bank of any sum allotted as compensation, and those provisions shall apply accordingly.

[(2) Appropriate phraseology for Scotland.]

6. Where the injury for which compensation is payable under this act was caused under circumstances creating a legal liability in some person other than the employer to pay damages in respect thereof, the workman may, at his option, proceed, either at law against that person to recover damages or against his employer for compensation under this act, but not against both; and, if compensation be paid under this act, the employer shall be entitled to be indemnified by the said other person.

7. (1) This act shall apply only to employment by the undertakers as hereinafter defined, on or in or about a railway, factory, mine, quarry, or engineering work, and to employment by the undertakers as hereinafter defined on, in, or about any building which exceeds thirty feet in height, and is either being constructed or repaired by means of a scaffolding or being demolished, or on which machinery driven by steam, water, or other mechanical power, is being used for the purpose of the construction, repair, or demolition thereof.

[Definitions are given in (2) of "Railway," "Factory," — to include all those places within the scope of the Factory and Workshop Act, 1895, and also laundries worked by steam, water, or other mechanical power,— "Mine," "Quarry," "Engineering work," "Undertakers," "Employer," "Workman," and "Dependants."]

[(3) Makes the act apply to accidents in ship-building outside the ship-building yards.]

8. (1) This act shall not apply to persons in the naval or military service of the crown, but otherwise shall apply to any employment by or under the crown to which this act would apply if the employer were a private person.

[(2) Details as to Treasury warrants for certain purposes.]

9. Any contract existing at the commencement of this act, whereby a workman relinquishes any right to compensation from the employer for personal injury arising out of and in the course of his employment, shall not, for the purposes of this act, be deemed to continue after the time at which the workman's contract of service would determine if notice of the determination thereof were given at the commencement of this act.

10. (1) This act shall come into operation on the first day of July, one thousand eight hundred and ninety-eight.

(2) This act may be cited as the Workmen's Compensation Act, 1897.

FIRST SCHEDULE.

SCALE AND CONDITIONS OF COMPENSATION.

Scale.

(1) The amount of compensation under this act shall be —

(a) where death results from the injury —

(i.) if the workman leaves any dependants wholly dependent upon his earnings at the time of his death, a sum equal to his earnings in the employment of the same employer during the three years next preceding the injury, or the sum of one hundred and fifty pounds, whichever of those sums is the larger, but not exceeding in any case three hundred pounds, provided that the amount of any weekly payments made under this act shall be deducted from such sum ; and if the period of the workman's employment by the said employer has been less than the said three years, then the amount of his earnings during the said three years shall be deemed to

be 156 times his average weekly earnings during the period of his actual employment under the said employer;

- (ii.) if the workman does not leave any such dependants, but leaves any dependants in part dependent upon his earnings at the time of his death, such sum, not exceeding in any case the amount payable under the foregoing provisions, as may be agreed upon, or, in default of agreement, may be determined, on arbitration under this act, to be reasonable and proportionate to the injury to the said dependants; and
- (iii.) if he leaves no dependants, the reasonable expenses of his medical attendance and burial, not exceeding ten pounds;

(b) where total or partial incapacity for work results from the injury, a weekly payment during the incapacity after the second week not exceeding fifty per cent. of his average weekly earnings during the previous twelve months, if he has been so long employed, but, if not, then for any less period during which he has been in the employment of the same employer, such weekly payment not to exceed one pound.

(2) In fixing the amount of the weekly payment, regard shall be had to the difference between the amount of the average weekly earnings of the workman before the accident and the average amount which he is able to earn after the accident, and to any payment not being wages which he may receive from the employer in respect of his injury during the period of his incapacity.

(3) Where a workman has given notice of an accident, he shall, if so required by the employer, submit himself for examination by a duly qualified medical practitioner provided and paid by the employer; and, if he refuses to submit himself to such examination, or in any way obstructs the same, his right to compensation, and any proceeding under this act in relation to compensation, shall be suspended until such examination takes place.

(4) The payment shall, in case of death, be made to the legal personal representative of the workman, or, if he has no legal personal representative, to or for the benefit of his dependants, or, if he leaves no dependants, to the person to whom the expenses are due, and, if made to the legal personal representative, shall be paid by him to or for the benefit of the dependants or other person entitled thereto under this act.

(5) Any question as to who is a dependant, or as to the amount payable to each dependant, shall, in default of agreement, be settled by arbitration under this act.

(6) The sum allotted as compensation to a dependant may be in-

vested or otherwise applied for the benefit of the person entitled thereto, as agreed, or as ordered by the committee or other arbitrator.

(7) Any sum which is agreed or is ordered by the committee or arbitrator to be invested may be invested in whole or in part in the Post-office Savings Bank by the registrar of the county court in his name as registrar.

(8) Any sum to be so invested may be invested in the purchase of an annuity from the National Debt Commissioners through the Post-office Savings Bank, or be accepted by the Postmaster-General as a deposit in the name of the registrar as such, and the provisions of any statute or regulations respecting the limits of deposits in savings-bank, and the declaration to be made by a depositor, shall not apply to such sums.

(9) No part of any money invested in the name of the registrar of any county court in the Post-office Savings Bank under this act shall be paid out, except upon authority addressed to the Postmaster-General by the Treasury or by the judge of the county court.

[(10) Persons deriving benefit from moneys so invested in a post-office savings-bank may open other accounts in savings-banks, notwithstanding any statutes or regulations to the contrary.]

(11) Any workman receiving weekly payments under this act shall, if so required by the employer or by any person by whom the employer is entitled under this act to be indemnified, from time to time submit himself for examination by a duly qualified medical practitioner provided and paid by the employer or such other person; but, if the workman objects to an examination by that medical practitioner, or is dissatisfied by the certificate of such practitioner upon his condition when communicated to him, he may submit himself for examination to one of the medical practitioners appointed for the purposes of this act, as mentioned in the Second Schedule to this act, and the certificate of that medical practitioner as to the condition of the workman at the time of the examination shall be given to the employer and workman, and shall be conclusive evidence of that condition. If the workman refuses to submit himself to such examination, or in any way obstructs the same, his right to such weekly payments shall be suspended until such examination has taken place.

(12) Any weekly payment may be reviewed at the request either of the employer or of the workman, and on such review may be ended, diminished, or increased, subject to the maximum above provided; and the amount of payment shall, in default of agreement, be settled by arbitration under this act.

(13) Where any weekly payment has been continued for not less than six months, the liability therefor may, on the application by or

on behalf of the employer, be redeemed by the payment of a lump sum, to be settled, in default of agreement, by arbitration under this act; and such lump sum may be ordered by the committee or arbitrator to be invested or otherwise applied, as above mentioned.

(14) A weekly payment, or a sum paid by way of redemption thereof, shall not be capable of being assigned, charged, or attached, and shall not pass to any other person by operation of law, nor shall any claim be set off against the same.

[(15) Certain details relative to the Friendly Societies Act, 1896.]

[(16) Appropriate phraseology for Scotland.]

[(17) Details as to the application of the act to Ireland.]

SECOND SCHEDULE.

ARBITRATION.

The following provisions shall apply for settling any matter which under this act is to be settled by arbitration:—

(1) If any committee, representative of an employer and his workmen, exists with power to settle matters under this act in the case of the employer and workmen, the matter shall, unless either party objects, by notice in writing sent to the other party before the committee meet to consider the matter, be settled by the arbitration of such committee or be referred by them in their discretion to arbitration, as hereinafter provided.

(2) If either party so objects, or there is no such committee, or the committee so refers the matter or fails to settle the matter within three months from the date of the claim, the matter shall be settled by a single arbitrator agreed on by the parties, or, in the absence of agreement, by the county court judge, according to the procedure prescribed by rules of court, or if in England the Lord Chancellor so authorizes, according to the like procedure, by a single arbitrator appointed by such county court judge.

(3) Any arbitrator appointed by the county court judge shall, for the purposes of this act, have all the powers of a county court judge, and shall be paid out of moneys to be provided by Parliament in accordance with regulations to be made by the Treasury.

(4) The Arbitration Act, 1889, shall not apply to any arbitration under this act; but an arbitrator may, if he thinks fit, submit any question of law for the decision of the county court judge, and the decision of the judge on any question of law, either on such submission or in any case where he himself settles the matter under this

act, shall be final, unless within the time and in accordance with the conditions prescribed by rules of the Supreme Court either party appeals to the Court of Appeal. And the county court judge, or the arbitrator appointed by him, shall, for the purpose of an arbitration under this act, have the same powers of procuring the attendance of witnesses and the production of documents as if the claim for compensation had been made by plaintiff in the county court.

[(5) As to the appearance of parties by other persons.]

[(6) As to costs.]

[(7) As to appointment of another arbitrator on the death, etc., of the original arbitrator.]

[(8) As to registration and enforcement of award.]

(9) Where any matter under this act is to be done in a county court, or by, to, or before the judge or registrar of a county court, then, unless the contrary intention appear, the same shall, subject to rules of court, be done in, or by, to, or before the judge or registrar of, the county court of the district in which all the parties concerned reside, or, if they reside in different districts, the district in which the accident out of which the said matter arose occurred, without prejudice to any transfer in manner provided by rules of court.

[(10) As to rules of court.]

(11) No court fee shall be payable by any party in respect of any proceeding under this act in the county court prior to the award.

(12) Any sum awarded as compensation shall be paid on the receipt of the person to whom it is payable under any agreement or award; and his solicitor or agent shall not be entitled to recover from him, or to claim a lien on, or deduct any amount for costs from, the said sum awarded, except such sum as may be awarded by the arbitrator or county court judge, on an application made by either party to determine the amount of costs to be paid to the said solicitor or agent, such sum to be awarded subject to taxation and to the scale of costs prescribed by rules of court.

(13) The Secretary of State may appoint legally qualified medical practitioners for the purpose of this act, and any committee, arbitrator, or judge may, subject to regulations made by the Secretary of State and the Treasury, appoint any such practitioner to report on any matter which seems material to any question arising in the arbitration; and the expense of any such medical practitioner shall, subject to Treasury regulations, be paid out of moneys to be provided by Parliament.

[(14) (15) (16) Appropriate phraseology for Scotland and Ireland.]

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VOL. I., NO. 1, MARCH, 1897.

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THE
QUARTERLY JOURNAL
OF
ECONOMICS

JANUARY, 1898

COURNOT AND MATHEMATICAL ECONOMICS.

“Cournot’s genius must give a new mental activity to every one who passes through his hands.”—MARSHALL.

THE appearance in English* of Cournot’s *Principes Mathématiques* offers a suitable occasion for a review of that remarkable work and of the later developments of economic method which it foreshadowed. In the six decades since the original work was published, a decided change has taken place in the modes of conceiving and treating economic problems. For good or for ill the mathematical method has finally taken root, and is flourishing with a vigor of which both its friends and enemies little dreamed. Sixty years ago the mathematical treatise of Cournot was passed over in silence, if not contempt. To-day the equally mathematical work of Pareto is received with almost universal praise. In Cournot’s time “mathematical economists” could be counted on one’s fingers, or even thumbs. To-day they muster some thirty active enthusiasts.

**Researches into the Mathematical Principles of the Theory of Wealth.* By Augustin Cournot, 1838, translated by Nathaniel T. Bacon. In the “Economic Classics” series. Macmillan, 1897.

asts and a much larger number of followers and sympathizers. In 1838 there seems to have been no institution of learning besides the Academy at Grenoble, of which Cournot was rector, where "mathematical economics" were employed or approved. In 1898 there are at least a dozen such institutions, and in England alone half that number, Oxford and Cambridge among them. It is in France, the prophet's own country, where he is still without honor. When Cournot wrote, no journal existed in which such investigations as his could find a welcome. To-day the *Economic Journal*, the *Journal of the Royal Statistical Society*, the *Giornale degli Economisti*, and the *Nationaloeconomisk Tidsskrift* receive such material with more or less regularity; while, within the last eight years alone, twenty other journals have occasionally published economic articles containing mathematics. Opponents of the new method no longer venture to ignore or ridicule it, but, in academic circles at least, seek to acquaint themselves with its history and present aims as matters of necessary and professional information. In recognition of such wide-spread interest the latest Dictionary of Political Economy devotes some forty articles to the history, writings, methods, and terminology of the "mathematical school."

It may fairly be claimed that Cournot was the principal founder of this school.* For this reason, if for no other, his book is an "economic classic," and as such deserves careful study. But its interest is not simply historical. The bulk of its reasoning and conclusions has never yet been superseded. Those who now read it for the first time will find it as new and fresh as any modern investigation. As the original work has long been out of print and scarce in the antiquarian market, the present edition serves the double purpose of translation and second edition. Moreover, thanks to the painstaking work of the

* Cf. Walras, *Théorie Mathématique de la Richesse Sociale*, 1883, p. 9.

translator, it far surpasses the original in typographical accuracy, a prime requisite in a mathematical work.

Exclusive of the preface and appended bibliography, the text occupies 166 pages. Of this material, the last two chapters, making 45 pages, have only an historical interest. As we shall see, they are vitiated throughout by fallacious conceptions of income. About 18 other pages (namely, §§ 34, 39, 42, 46 (2d par.), 48, 49, 52, 54, 64, 65, 72, 73) may be omitted without loss of continuity and without great loss of substance. The remaining 103 pages are almost uniformly excellent, and will repay very thorough study by all who care for exact ideas and demonstrations in Political Economy. Furthermore, the reader will find, before he has gone far, that very thorough study is indispensable to a mastery of the subtle author. Jevons, though himself a mathematical economist, confesses, with characteristic candor, "I have by no means mastered all parts, my mathematical power being insufficient to enable me to follow Cournot in all parts of his analysis."* The general trend of reasoning and the final conclusions will be patent to the most non-mathematical reader, and I have heard a distinguished economist of that description say that he found the book easy reading. But a slight acquaintance with the notations of the Differential Calculus is necessary for interpreting the formulæ, and considerable familiarity for deriving them in some cases. To lift the beginner in the Calculus over the last sort of difficulties, I have appended to this article a series of notes.† The work is, of course, not wholly mathematical. Of the 103 pages above mentioned, containing the essential parts, only about 70 are mathematical. The reader who will make up his mind at the outset to work his way through these pages at half-speed or quarter-speed need not chafe over

* *Theory of Political Economy*, preface to 2d edition, p. xxix of 3d edition. .

† See the Appendix.

necessary hindrances and delays, and will not regret the extra time required.

In his preface Cournot defends his method of treating economic science. Few better statements exist of the aims and merits of "deductive" and "mathematical" economics. While welcoming all study of facts, Cournot insists on a framework of *theory* in which those facts fit. A very few facts (such as that demand increases with a decrease of price) suffice to determine the main outlines of that theory, though its exact form depends on the specific circumstances of each particular case. He answers the alleged objection to a mathematical treatment that economic problems lack the data for numerical solution:—

Those skilled in mathematical analysis know that its object is not simply to calculate numbers, but that it is also employed to find the relations between magnitudes which cannot be expressed in numbers and between *functions* whose law is not capable of algebraic expression. . . . Thus . . . theoretical mechanics furnishes to practical mechanics general theorems of most useful application, although in almost all cases recourse to experience is necessary for the numerical results which practice requires.*

Entering upon the book itself, we find that it naturally falls under three heads. The introductory chapters, treating of value, "absolute and relative," and of the foreign exchanges, are quite apart from the rest of the book. Chapters IV.-X. inclusive discuss the determination of prices under different conditions as to monopoly and competition, taxes and bounties. This portion of the work is the most distinctive and the most widely celebrated. The remaining two chapters give an ambitious but erroneous theory of "Social Income."

Chapter I. is devoted to defining wealth, which term Cournot uses in the sense of value in exchange. He carefully distinguishes this idea from *utility*, with which he conceives the economist has no direct concern. Here,

* Page 3.

of course, he differs materially from modern mathematical economists, beginning with Jevons and Walras. To prevent all misunderstanding, Cournot points out that, under his definition of wealth, the destruction of spices by the East India Company, though opposed to the general good, was a "real creation of *wealth* in the commercial sense of the word." What relations exist between wealth thus conceived and the welfare of the human race Cournot regards as too difficult a problem to admit of present solution. Yet he does not disparage efforts towards that end.

Chapter II. deals with "Changes in Value, Absolute and Relative," — a subject of engaging interest in these latter days of conflicting monetary standards. The reader will be filled with surprise and admiration at Cournot's anticipations of modern thought on this difficult topic. The *values* of a system of commodities are compared to the positions of a system of particles. The value of each commodity is expressed relatively to other commodities, just as the position of each particle is expressed by reference to the other particles. When a change occurs in the relative values or positions, the question arises, Which term of the comparison has suffered an *absolute* change? Clinging to physical analogy, Cournot cites the remarkable passage in Newton's *Principia* in which an "absolute space" is supposed as a background for mechanical motion, distinct from the "relative space" made up of the system of moving points. He does not despair of distinguishing statistically absolute and relative changes, and observes that in case all commodities except one, such as gold or silver, preserve the same relative values, the probability is greater that the one commodity has changed than that all the others have changed. Although the whole discussion lacks one of its modern elements,—the idea of utility,—it must nevertheless be regarded as more profound and worthy of serious consideration than most contemporaneous treatments of the same theme.

Of the third chapter, on foreign exchange, Jevons says, rather dubiously, that it is "highly ingenious, if not particularly useful."* Its utility, however, seems commensurate with the utility of the subject of which it treats. It is a correct first approximation, based on the hypothesis of a regularly recurring annual indebtedness between nations or "centres of exchange." So far as it fails to explain the complex facts of the exchange market, the failure is due to this arbitrary hypothesis, which neglects "dynamic" causes. When a completer theory is developed (so far as I am aware, none such exists as yet), it will establish laws governing the *oscillations* of exchanges and the part played by foresight and speculation in such transitions.

Supposing only two centres of exchange, (1) and (2), and supposing (1) to be annually indebted to (2) the sum of $m_{1,2}$ francs, and (2) to (1) $m_{2,1}$ francs, if $c_{1,2}$ is the rate of exchange at (1) on (2), "or the amount of silver given at the place (2) in exchange for a weight of silver expressed by 1 and payable at the place (1)," then $c_{1,2} = \frac{m_{2,1}}{m_{1,2}}$. If three centres are taken instead of two, the formula becomes more complicated; but it is still possible to derive the six rates of exchange in terms of the six sums of indebtedness between the three centres, and so on for any number of centres. The limits set by the "specie points" are discussed, and the case of exchange between gold and silver countries without a par of exchange is briefly touched upon.

With Chapter IV. the main portion of the work, the theory of prices, begins. Cournot assumes that the demand for an article, in the sense of the quantity of it annually consumed, varies with (*i.e.*, is a "function" of) its price. The relation between price and demand is delineated by the now familiar "demand curve," which

**Theory of Political Economy*, 3d edition, p. xxix.

Cournot was the first to introduce. The character of this relation — *i.e.*, the form of the demand curve — depends on “the kind of utility of the article, on the nature of the services it can render or the enjoyments it can procure, on the habits and customs of the people, on the average wealth, and on the scale on which wealth is distributed.”* As is well known, Walras and later writers have gone a step deeper into the analysis, and have shown how to deduce the *general* demand curve used by Cournot from a system of *individual* demand curves, and have in turn deduced the individual curves from systems of relations between the “utility of the article” and its quantity, and from the “nature and habits of the people” and the “scale on which wealth is distributed.” In doing this, they have not superseded Cournot, but have simply laid bare the foundations on which he built.

Given the law of demand, Cournot first supposes a complete monopoly of the article in question, and shows what price will yield the maximum profit. He points out (§ 80) that *fixed charges*, or costs which do not vary with the output, have no influence on price,—a theorem whose truth and importance are often overlooked to-day, except, perhaps, in America, where it has been made conspicuous both in railway experience and theory.† Only the *running expenses* figure in the determination of rates. Cournot shows that an increase of what would now be called marginal cost always causes an increase in the price under a monopoly, but that the rise of price is sometimes more and sometimes less than the amount of the increase of cost. The criterion for distinguishing the two cases is deduced and discussed.

In passing from the study of perfect monopoly to that of perfect competition, Cournot considers also the intermediate case of a few, say two, competitors. The operation of self-interest in this case will, Cournot contends,

* Page 47.

† See Hadley, *Railway Transportation*, p. 265.

cause an equilibrium price to emerge, which will be lower than if the two rivals had combined, but higher than if a third competitor should enter the field.

Cournot's treatment of this difficult problem is brilliant and suggestive, but not free from serious objections. The fault to be found with the reasoning is in his premise that each individual will act on the assumption that his rival's output is constant, and will strive only to so regulate his own output as to secure the largest profits. He is regarded as oblivious of the consequences of his action on the tactics of his rival, and as assuming that the price which will be charged by that rival will be neither more nor less than that necessary to take off the fixed output imputed to him plus the output decided upon by himself. Under these conditions, Cournot's conclusions will hold true. But the conditions are not those which actually apply to competition between two producers. A more natural hypothesis, and one often tacitly adopted, is that each assumes his rival's *price* will remain fixed, while his own price is adjusted. Under this hypothesis each would undersell the other as long as any profit remained,* so that the final result would be identical with the result of unlimited competition. But, as a matter of fact, no business man assumes either that his rival's output or price will remain constant any more than a chess player assumes that his opponent will not interfere with his effort to capture a knight. On the contrary, his whole thought is to forecast what move the rival will make in response to one of his own. He may lower his price to steal his rival's business temporarily or with the hope of driving him out of business entirely. He may take great care to preserve the *modus vivendi*, so as not to break the market and provoke a rate war. He may raise his price, if ruin-

* Cf. Bertrand, *Journal des Savants*, 1883, p. 503; Marshall, *Principles*, i., 2d edition, p. 457; Pareto, *Cours d'Économie Politique*, i. p. 67; Edgeworth, *Giornale degli Economisti*, June, 1897, p. 24.

ously low, in hopes that his rival, who is in the same difficulty, may welcome the change, and follow suit. The whole study is a "dynamic" one, and far more complex than Cournot makes it out to be. The completest treatment of this intricate and neglected problem is contained in Professor Edgeworth's brilliant articles in the *Giornale degli Economisti*.*

Passing on to the case of "unlimited competition" (Chapter VIII.), Cournot shows that the price is, in this case, equal to the "marginal cost of production." Cournot himself does not use this term nor any other verbal description of the magnitude involved. He confines himself to mathematical symbolism. $\phi(x)$ being the total cost, to a particular producer, of producing x units, $\phi'(x)$ will be equal to the price. Since $\phi'(x)$ is the rate of increase of cost per unit of increased product,—i.e., "marginal cost,"—Cournot must be counted among the anticipators of Jevons, Menger, and Walras. These anticipators now appear to be Bernouilli, Anderson, Ricardo, Von Thünen, Rae, Cournot, Dupuit, and Gossen.

If we plot the relation between the product of each individual and his resulting marginal cost, we have a system of individual supply curves. These may be combined into a single general supply curve, which Cournot uses. He shows, what is now familiar to every student, that the intersection of this general supply curve with the general demand curve determines price. It is significant of the slow growth of economic science that these graphic pictures of supply and demand, now in almost universal use in text-book and class-room, were ignored or forgotten by Cournot's contemporaries, and were only restored in 1870, when independently obtained by Fleeming Jenkin. With his name, rather than with Cournot's, they are generally associated to-day.

In the same chapter Cournot enunciates two other prin-

*1897, June, October, and November.

ciples which have become classic, though, like that just mentioned, they are seldom duly credited to him. One is in regard to the law of diminishing returns (p. 91), and the other is that a tax on an article subject to "unlimited competition" will raise the price by an amount less than the tax itself (p. 98).

Cournot next considers the "mutual relations of producers" or the connections between complementary materials, such as copper and zinc, which enter jointly into the production of a composite, such as brass. Cournot was apparently the first to investigate such "joint demand." His study here, unlike the rest of his work, is confined to a special case; namely, that where the component articles enter in perfectly definite proportions into the joint article. He shows, among other things, that the control by a single monopolist of both copper and zinc will result in a lower price of brass than the control of copper by one monopoly and zinc by the other. That is, in the case of complementary commodities, it is better for the consumer to be at the mercy of one monopolist than two. An important application, Professor Edgeworth points out, is to railway rates, where, as is well known, lower fares follow the consolidation of connecting lines. But, although Cournot's conclusions are in the main consonant with facts, his analysis of motives in the minds of the two monopolists is subject to much the same objection as above expressed in the case of two competitors.* Turning to the more trustworthy case of unlimited competition, Cournot develops several interesting results, among them that a tax levied on one of the two component articles will raise the price of that article and of the composite article, but will *lower* the price of the other component.

In introducing the subject of import duties or bounties, "without pretending, which would be absurd, to contradict the opinion which has been very generally formed, of

* See Edgeworth, *Giornale degli Economisti*, 1897, June and October.

the advantages for the community procured by improvements in the means of communication or by the extension of markets," * Cournot suggests that the extreme position of free traders is untenable. In following out this contention, Cournot commits a mathematical blunder which invalidates his main thesis; namely, that a tariff on imports may, under certain peculiar circumstances, lower prices of the goods imported. Formulae (6) on page 122 are erroneous † for reasons explained in the appended notes (No. 50). The correct formulæ may be transcribed from those given by putting zero for ϵ . With this change it will be seen that Cournot's arguments on pages 123 and 124 are quite destroyed.

This singular error supplies one of many examples of a serious fault in our talented author,—gross carelessness. In spite of extraordinary acuteness and precision of mind, Cournot was neglectful of his duties as verifier and proof-reader. The translator, Mr. Bacon, has convicted him of some thirty-five inaccuracies. Though most of these are obvious misprints, some are clearly due to hasty and heedless mathematical transformations. Fortunately, only two of them affect the economic conclusions drawn. The first has just been mentioned, and the second will soon appear. It was not ignorance or unfamiliarity with mathematics which caused these slips. The evidence, internal and external, is decisive against this view. Rather was it his very facility in employing the mathematical apparatus which led Cournot to omit the essential labor of reviewing his reasoning and of checking his results by common sense. The impossibility of formulæ (6), page 122, appears from the simplest inspection; for it is *a priori* evident that δ (the effect of the tax) ought to vanish when u (the tax) vanishes, which it does not do.‡

* Page 121.

† Cf. Edgeworth, in Palgrave's Dictionary, article "Cournot," and Berry and Sanger, quoted by Edgeworth, *Economic Journal*, 1894, p. 627.

‡ Cf. Arthur Berry, quoted by Edgeworth, *Economic Journal*, 1894, p. 627.

Most readers of Cournot have trusted his mathematics, but been puzzled by his conclusions. Professor Bastable tries to explain the matter by the influence of some prejudice on his judgment.* But such an explanation does not seem to be required. Cournot's "curious views" are in large measure due to the mathematical error above mentioned. Moreover, his whole book stamps him as the most dispassionate of truth-seekers. He expressly disclaims any feeling in favor of protection:—

If we have tried to overthrow the doctrine of Smith's school as to barriers, it was only from theoretical considerations, and not in the least to make ourselves the advocates of prohibitory and restrictive laws.†

Again, in his preface, he says:—

I am far from having thought of writing in support of any system, and from joining the banners of any party; I believe that there is an immense step in passing from theory to governmental applications; I believe that theory loses none of its value in thus remaining preserved from contact with impassioned polemics; and I believe, if this essay is of any practical value, it will be chiefly in making clear how far we are from being able to solve, with full knowledge of the case, a multitude of questions which are boldly decided every day.

The two concluding chapters on "Social Income" are the most unsatisfactory in the book. They form one of those innumerable and futile attempts to define the income of a community and analyze its variations. Cournot here loses his accustomed perspicuity. He first describes social income as the sum of individual incomes, the latter term being regarded as self-explanatory. He then redefines it as the sum of commodities "for consumption." He thinks he bridges over the gap between these two descriptions of

* "The treatment of the topic [the benefits of a tariff] in so defective a manner by an able and critical investigator suggests the belief that some disturbing cause must have influenced his judgment, and his evident desire to discover a scientific foundation for protectionism furnishes us with a very probable explanation of his curious views." *International Trade*, 2d edition, p. 179.

† Page 171.

income on the theory that the price of any commodity "for consumption" consists of parts ascribable to the different agents of production. This being the case, if D be the entire consumption of a "commodity for consumption," and p the price, "the product pD will express the sum to the extent of which this commodity co-operates in making up the social income." If p_0D_0 be the value of this product at one time, and p_1D_1 that at another, the difference between them, $p_0D_0 - p_1D_1$, expresses the diminution of social income (assuming for illustration that p_1D_1 is the lesser of the two products). This diminution occurs in the incomes of the various persons contributing to the *production* of the commodity in question; and Cournot argues that the incomes of all other persons may be considered unchanged, for perturbations in the prices of other commodities are apt to occur as much in one direction as in the other (pp. 129-132.)

According to this reckoning, a dearth of a necessity of life may cause an *increase* of social income if the price rises faster than the quantity consumed falls! To overcome this difficulty, Cournot distinguishes between the "nominal" reduction of income just described ($p_0D_0 - p_1D_1$) and a *real* reduction of income. He attempts to describe this real reduction of income without describing any "real income." The real reduction is found by taking into account the sacrifices that *consumers* of the commodity suffer in paying higher prices. Although it was already shown that the incomes of consumers, as a whole, may be considered as unchanged, still those who continue to buy after the price has risen have to pay the rise $p_1 - p_0$ on their purchase D_1 , thus expending $(p_1 - p_0)D_1$ more income for precisely the same return. Hence they "are really in just the same situation as to fortune as if the commodity had not risen and their incomes had been diminished by $(p_1 - p_0)D_1$." Adding this virtual loss of income for consumers to the loss already shown for

producers, — namely, $p_0 D_0 - p_1 D_1$, —. Cournot obtains $p_0(D_0 - D_1)$ as the *total* real loss. He confesses, however, that, even with this amendment, he has not taken account of the loss to consumers who have ceased to buy the commodity because of the increased price, or of part of the loss (in the shape of reduced purchases) to those who do buy, but buy less. He pleads in extenuation of this omission: "But this kind of damage cannot be estimated numerically.... Here comes in one of those relations of size which numbers can indicate, indeed, but cannot measure." Had Cournot reached the conception of "consumers' rent," he would have seen that numbers can measure as well as indicate the damage in question.*

In the final chapter Cournot applies his ideas of income to international trade, and attempts to show in particular that a protective tariff may, under special circumstances, increase the national income. Inasmuch as the idea of income is so arbitrary and faulty, little or no importance attaches to such speculations.†

Such, in brief, are some of the main outlines of Cournot's economic doctrines. It is not possible, however, to reproduce the striking and ingenious observations with which his pages bristle, or to reflect the strong, clear style in which those observations are expressed. To feel Cournot's power and stimulus, the reader must actually "pass through his hands." He will scarcely fail to come away with a "new mental activity."

* Cf. Edgeworth, *Economic Journal*, 1894, p. 628. If the price rises from OT to OT' (see Fig. 6, in Cournot), the loss to consumers, as estimated by Cournot, is the rectangle TS' , whereas the loss of consumers' rent is the trapezoid $STT'S'$. That is, the loss due to consumers giving up consumption, which loss was neglected by Cournot, is the triangle of which SS' is hypotenuse. Evidently, this triangle may be very large. Cournot's erroneous views on social income are treated at length by Pareto, *Giornale degli Economisti*, 1891, vol. iv. pp. 1-14.

† In one of them Cournot falls again into mathematical error. The inequality near the end of p. 158 — namely, $E < E - (D_b - D'_b)$ — is incorrect. It implies that $D_b < D'_b$, which contradicts what was said on p. 155, line 9. The author seems to have forgotten that D'_b does not here mean quantity consumed, but quantity produced (see p. 151, § 88, line 9).

And yet it is not surprising that the book seemed a failure when first published. It was too far in advance of the times. Its methods were too strange, its reasonings too intricate, for the crude and confident notions of political economy then current. It was quite inevitable that it should be neglected and forgotten until such kindred spirits as Jevons and Walras pointed out its virtues. Cournot accepted the situation philosophically, and tried to make his theories more palatable by divesting them of the mathematical form. He published his *Principes de la Théorie des Richesses* in 1863, and in 1876, the year before his death, his *Revue sommaire des Doctrines Économiques*. Both contain new matter. The second is said to retain the more successfully the strength and virtues of the *Principes Mathématiques*. I have seen only the first. Of this Jevons* said, with justice, that it "does not compare favorably in interest and importance with" the *Principes Mathématiques*.

In the seventies the main work began to show signs of coming to life. Walras quoted and praised it in his *Éléments d'Économie Politique*,† published in 1874, and in later works.‡ In 1875 an Italian translation appeared in the excellent series of Boccardo, *Biblioteca dell' Economista*. In 1879 Jevons, in the preface to the second edition of his *Theory of Political Economy*, described the contents of the book, a copy of which he had found as early as 1872. With these sponsors the work was brought into prominence, and studied with care. Among those who served to extend its fame were Launhardt, Auspitz and Lieben, Lexis, Marshall, Edgeworth, Cossa, Pantaleoni, Pareto, and Barone. Marshall testifies that his mode of formulating economic problems was

most affected by mathematical conceptions of continuity, as represented in Cournot's *Principes Mathématiques de la Théorie des*

* *Theory*, 3d edition, p. xxx.

† E.g., preface and p. 423.

‡ E.g., *Théorie Mathématique de la Richesse Sociale*, 1883, p. 9.

Richesses. He taught that it is necessary to face the difficulty of regarding the various elements of an economic problem, not as determining one another in a chain of causation, *A* determining *B*, *B* determining *C*, and so on, but as all mutually determining one another. Nature's action is complex; and nothing is gained in the long run by pretending that it is simple, and trying to describe it in a series of elementary propositions.

Under the guidance of Cournot and in a less degree of Von Thünen, I was led to attach great importance to the fact that our observations of nature, in the moral as in the physical world, relate not so much to aggregate quantities as to increments of quantities.*

Edgeworth admires "Cournot's masterly analysis of the dealings between a monopolist seller and a number of buyers competing against each other,"† and makes frequent quotations and comments in numerous articles on Taxation, International Trade, and Money.‡

Seligman, writing on taxation, says:—

The authors who have in some respects, and within a limited field, done the best work in the study of incidence of taxation, are precisely those who have hitherto generally been overlooked [namely, mathematical economists]. . . . Of these, by all means the ablest and most suggestive is Cournot.§

Cournot's influence and eminence have not been confined to economics. He was something of a man of affairs, as is evident from the positions which he occupied.|| His literary work was many-sided. In addition to editing and translating, he published several works of note, both on Mathematics, pure and applied, and on Philosophy. Louis Liard, a competent critic, in an extensive review of a half-dozen philosophical writings of Cournot, says:—

Pendant plus de quarante ans, il a mis au service de la philosophie une science profonde de géométrie, des connaissances encyclopédiques,

* *Principles*, p. xiv.

† Address before Section F of British Association, 1889, *Nature*, September 19, 1889, p. 499.

‡ *E.g.*, *Economic Journal*, 1894, pp. 624, sq.; 1897, pp. 53, 69, 227, 229; *Giornale degli Economisti*, 1897, June, October, and November.

§ *Shifting and Incidence*, 1892, p. 80. || See Introduction to Translation.

une pénétration peu commune d'analyse, d'éminentes qualités d'invention, et une rare indépendance de pensée.*

Liard goes on to remark that, had Cournot been endowed with less modesty, and more assurance, he would have been the recognized head of an independent school of philosophy, intermediate between those of Kant and Comte.

Of Cournot's mathematical writings, Todhunter speaks with praise; † while Bertrand, though very dubious as to the value of mathematical economics, wrote of him:—

Savant distingué, écrivain habile, esprit original et élevé, dans l'art des déductions, Cournot était un maître. M. Walras se fait honneur d'être son disciple.‡

Yet it is as economist rather than philosopher or mathematician that Cournot is to-day most remembered. He is fulfilling Jevons's prophecy that he would "occupy a remarkable position in the history of the subject." § Although some score of writers had preceded him in attempting to apply mathematical processes to political economy, he was the first to win substantial results. He alone of the early writers exerts to-day a powerful influence on economic thought. It is with him, therefore, that any survey of modern mathematical economics should begin.

Between 1838 and 1871, the date of publication of Jevons's *Theory*, some thirty mathematico-economic writings appeared. But their authors were, for the most part, ignorant of Cournot and of each other. The movement first got coherence and impetus from Jevons and Walras, when almost simultaneously they and Menger, the founder of the Austrian school, discovered, or at least rediscovered, the principle of marginal utility. The freshness and fruitfulness of these new ideas, the fact that

* "Un géomètre philosophe," *Revue des Deux Mondes*, 1877, iv. p. 102.

† See Jevons, *Theory*, 3d edition, p. xxiv.

‡ *Journal des Savants*, 1883, p. 499. § *Theory*, 3d edition, p. xxviii.

three writers reached them independently and at the same time, attracted wide attention. Jevons's lucid style and his eminence in other lines than economics aided greatly among English readers. A vigorous controversy ensued over the method proper to economic study.* Both the works of Jevons and Walras went through three editions. A small band of writers, including Edgeworth, Marshall, and Wicksteed in England, Pantaleoni, Pareto, and Barone in Italy, Westergaard and Madsen in Denmark, D'Aulnis de Bourouill, Cohen Stuart, and Mees in Holland, Launhardt and Lehr in Germany, Auspitz and Lieben in Austria, began to build on the foundations thus laid.

But the progress of the new methods during this period was small compared with that which followed the appearance of Marshall's first volume. This work, which immediately took rank among the foremost treatises, has spread the mathematical ideas far and wide. Many who had never heard of mathematical economics began to give it serious consideration. Naturally, the old disputes broke out afresh. Marshall's diagrams and formulæ were called dangerous, falsely accurate, academic playthings. But Marshall's moderate and judicial tone in treating of the utility of mathematics, his relegation of all his mathematics to foot-notes and appendix, won him readers, and at the same time showed plainly *lacunæ* in the text wherever mathematical notes were subjoined. The despised diagrams were examined. The reader's prejudices melted away as he discovered their extreme simplicity, and found them throwing light into many dark corners of economic theory. To-day few economists can be found who regard diagrams as useless curiosities or as waste of valuable page space. When Professor Hadley's book appeared, with the diagrams in the text itself, scarcely a murmur of objection was raised.

The quickening which Marshall gave the new current

* See Cairnes, *Logical Method of Political Economy*, 2d edition, p. vi.

may be roughly measured by the fact that, since his first edition, writings employing mathematics have appeared at the rate of eighteen a year; while between Jevons and Marshall the rate was six, and between Cournot and Jevons only a little over one. All this is interesting when compared with the confident predictions of the opponents of the new "school": "There is, therefore, no future for this kind of study; and it is only waste of intellectual power to pursue it."*

It goes without saying that this growth will not cease with the year 1898. All indications point to an increased volume of writing and an increased number of writers. Behind the distinguished group of mathematical economists now in or beyond their prime stand a much larger number of youthful followers whose period of productivity has only just begun. Among them are Berry, Bortkewitsch, Johnson, Sanger, Wicksell, and Yule.

There are, of course, many who still believe the whole study a delusion. There are others who admit that curves are useful, but deny the utility of formulae. Probably in the entire world of economic students the opponents of the method still outnumber the friends. But, within the narrower circle of those who lead economic thought, the opposite seems to be distinctly true. There is not space here to enter upon the merits of the controversy. Fortunately, this is unnecessary; for the field has been recently and ably covered in another American journal by Professor Pareto.†

One objection, however, to the introduction of mathematics into economic study ought not perhaps to go unmentioned. Mathematical economists are sometimes accused of forming an exclusive guild and withdrawing themselves from the practical world of commerce and labor. We are told that economists ought not to be recluses, but men of affairs, especially in these days of social upheaval.

* Ingram, *History of Political Economy*, 1888, p. 182.

† *Journal of Political Economy*, September, 1897.

Mathematical economics is useless in a political mass meeting. But in every science there must be a differentiation of technical investigation from popular text writing or teaching. Is physics less practical because the X-rays are studied in the seclusion of the laboratory by highly mathematical methods, of which the work-a-day world has no conception? If the experience of other sciences is a guide, the best way to make economic theories practical is to make them perfect. "Our speculations can scarce ever be too fine, provided they be just."* The profound technical treatise is a prerequisite of the good popular manual. What is not as clear as crystal to the writer of the first will never be clearer than Newfoundland fog to the reader of the second. Had Mill employed more mathematics, he would never have befuddled business men over an impossible "wages fund." As Newcomb, the astronomer, first pointed out, wages are a *flow*, and not a fund. Were economists more imbued with mathematics, we should have fewer such quantitative absurdities as "the excess of the statistics of family purchases over those of family consumption represents the supplies kept on hand," or "marginal utility is that portion of the supply which has the least utility," or "quantity of money cannot affect its value, since the latter is determined by cost of production," as if the cost could not vary with the quantity; nor would so many authors treat "supply" as a fixed quantity instead of a relation between two variables, or be so incapable of conceiving the utility of one commodity as a function of the quantities of two or more commodities. When such errors are eliminated, not only will economic science be more perfect as a science: it will be divested of those crudities which have made it too often a laughing-stock when applied to the hard and stubborn facts of the actual world.

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* Hume, *Essay on Commerce*.

CANADA AND THE SILVER QUESTION.

IT is rather remarkable that the prolonged silver agitation in the United States has not provoked or been followed by a sympathetic movement in Canada. The striking similarity of conditions in the two countries would lead one to expect such a movement. Canada is an agricultural country, and the conditions of agriculture in Canada are in all respects similar to those in the United States. Canadian farmers have experienced the disheartening effects of the fall in agricultural prices. Farm property is heavily mortgaged, and has declined in value,—slightly in Ontario, but heavily in the maritime Provinces. From Manitoba and the North-west have come the familiar complaints of grinding railway monopoly, and Manitoba is just beginning to recover from the disastrous boom of the early eighties. Canada has borrowed largely, and the burden of the interest she must pay has been largely increased by the fall of prices; and the burden of taxation has been made heavier, for revenue is raised largely by an *ad valorem* duty on goods whose value has been steadily falling. There is less money per head in Canada than in the United States, and apparently not much more than a third of the proportion which the United States requires to transact her internal commerce. The commercial and financial conditions in the United States are sooner or later reproduced in Canada. A crisis there means a prolonged business depression here; and a revival of trade, prosperity in Canada. Even in purely financial affairs, where the difference between the two countries is greatest, the stability of the Canadian banking system is ultimately dependent on the gold reserve in the United States Treasury. Ideas which are prevalent in the United States, sooner or later are taken up in

Canada. In respect of financial legislation Canada is as free to adopt a silver standard as the United States. She has absolute control of her monetary system: the imperial government could interfere only by repealing the British North America act and reversing the colonial policy which has been in force since responsible government was granted. The absence of silver mines in Canada is not sufficient to account for the phenomenon; for, at the most, the silver mine owners were no more than an occasional cause of the agitation. Had the same elements of discontent been present in Canada, the agitation would have swept over the whole country, the small annual production of silver to the contrary notwithstanding.

Yet, with all this similarity of conditions and with all the reciprocal dependence and the intercourse between the countries, the election in 1896 in Canada was fought out on a mixed tariff and educational issue; and, though the opposing forces were even then in line across the border, there was no breath of a demand for a currency reform to remedy the long industrial and commercial depression. Great interest was taken in the Presidential campaign. The newspapers devoted a great deal of space to the subject; long speeches were reported in full; statistics were liberally quoted, and election forecasts diligently studied; and the crowds around the telegraph offices on the evening of the 5th of November, if not as large, were quite as much interested as those which awaited the returns of the Canadian elections on June 27. But neither in the editorial columns nor in the common talk of the street was there any sympathy expressed with the silver men, and the victory of Mr. McKinley was more generally welcomed than the success of Mr. Laurier. It was not a question of abstract politics in which they were interested. The prosperity of Canada was felt to be bound up with the prosperity of the United States. The success of the silver men would have been, so they

thought, as ruinous to Canada as it would have been to the United States.

In the absence of a silver agitation it is not hard to understand why there was so general a desire to see a victory for the gold standard. The Canadian public believed, with an intensity of conviction that was not based on understanding, that the election of Mr. Bryan meant a fifty-cent dollar; and they had great interests at stake, depending on the maintenance of the standard. In 1895 there were held in Canada, from United States life assurance companies, 50,229 policies of an amount of \$96,731,278, or an average of \$1,862 per policy; and nearly 100 millions of Canadian property was insured in United States fire insurance companies. These policy-holders and all the agents of the companies were vitally interested in the maintenance of the standard; and, though the interests of the policy-holders were secured by the declaration of the Minister of Justice that all insurance companies doing business in Canada must pay all claims in Canadian currency, there was little diminution in the desire that Mr. McKinley should be elected. One looked in vain for even an occasional expression of the protectionist fallacy that one country's loss is another's gain. The sentiment of the nation was economically sound. Business men knew that Canada did not prosper while the United States suffered; and the banking interests, by their traditions as well as on account of their investments in United States financial centres, went strongly in favor of the gold standard.

The absence of a silver movement in Canada is a result partly of agricultural and political, but mainly of financial causes.

In the first place, there is less reason for agricultural discontent in Canada than in any other gold standard country. Manitoba and the North-west have been practically opened up and settled since the fall in prices began;

and, consequently, the high price of wheat did not promote a rush to those regions. In 1871, when the price of wheat in New York was \$1.31, Manitoba had just entered Confederation; and her population of 18,995 was largely made up of Indians, half-breeds, and fur-traders. In 1881, with wheat at \$1.11 a bushel, her population was 62,260. In 1891, with wheat at 93 cents, the population was 152,506, and mainly agricultural. The improvement in the means of communication, which has opened up new sources of supply and for the first time brought the silver standard countries into effective competition, has been the making, not the ruin, of agriculture in Western Canada. The Canadian farmer in the Far West has produced under the most favorable conditions, and not from the margin of cultivation. Again, the late development of the West has prevented a loud outcry against the increasing burden of mortgages. The farms have been mortgaged since the fall in prices began; and the fall of prices since 1881 has not been great enough, in the favorable conditions in which the Canadian Western farmer is placed for competition, to make the growing burden of interest an intolerable strain. The farmer in Ontario and in the maritime Provinces has suffered more; but there the interests are not so predominately agricultural, and a large part of the money loaned on mortgage in the West has been collected in the East. A large proportion of the indebtedness has undoubtedly come from abroad, and an increasingly large quantity of goods must be sent to pay the annual interest; but Canada has been till recently a borrowing nation, and the burden of the interest which the industry of the country has to pay has been concealed or disguised by renewed loans.

There has been, it is true, a large measure of agricultural discontent in Canada; but the remedy has been persistently sought in a reform of the tariff, and not in a reform of the currency. The majority cannot pin their

faith to more than one panacea at a time. The conditions of hard times may be complex, but the effect is homogeneous; and it is natural to seek the remedy in a single direction. Both in Canada and in the United States the remedy is sought in legislation; but in the United States there is a powerful tradition in favor of manipulation of the currency, while in Canada there is no such tradition. The Western farmer in the United States in 1896 demanded free silver: the farmer in Canada demanded freer trade. It is not the least merit of the late Conservative government in Canada that for eighteen years it managed to keep one not vitally important issue before the public mind as the possible remedy. The Conservative, while denying that the country was not prospering, demanded more protection: the Liberal denounced the iniquitous national policy as the source of all evil. The permanently discontented found their way to the ranks of the opposition, and for eighteen years the tariff policy has acted as a conductor. No opportunity was afforded the country of testing the soundness of the Liberal policy; and it remained an untried remedy, a possible panacea. Had a free trade government obtained the reins of power during the long period of depression, it is possible that no more in free trade than in protection would the remedy for hard times have been discovered. But the Liberal party were kept in opposition, and the country had no opportunity of testing their remedies. The election in 1896 was fought with the tariff as the underlying issue; and agricultural discontent found expression in turning out a protectionist government, not in demanding a change of the standard. Should the present Laurier government be as unlucky as the Mackenzie government in the prevalence of depression during its period of office, it is possible that the eyes of many will be opened to the fact that manipulation of the tariff schedules is not the high-road to prosperity. Then they will seek another panacea; and

the year 1900, when the Bank Charter Act comes up for revision, may be marked by an agitation for soft money.

Even under those conditions it is possible that some other issue will divert the attention of the discontented from the question of the standard. New and unforeseen issues are within the range of possibility. The Dominion House has not only a somewhat wider range of function than Congress,* but provincial issues may be transferred, as the Manitoba school question was, to the arena of federal politics; and such issues may be important enough to engross all the political energy of the voters of the Dominion.

The main reason why Canada has hitherto escaped is to be found in the almost perfect adaptation of her banking system to her needs, or, more accurately, in the adaptation of the issue of bank-notes to her needs. The more purely banking part of the system has an excellence which is equalled in many other countries, and is perhaps not as good as the banking departments of the Scottish system; but in her note issues, and in the aid which the banking departments, so to speak, give to the issue departments, there is a perfection of adjustment which cannot be found elsewhere. It may be doubted whether the system could be adopted elsewhere, and it is possible that, as the country develops industrially and commercially, the system may be found wanting; but at present no system could be devised which could more fully meet the requirements of a new country such as Canada. Of the purely banking department there is no need to speak. We are concerned only to show how the issues have been so regulated as to

* Cf. Bryce, *American Commonwealth*, vol. i., Appendix, p. 685. "The distribution of matters within the competence of the Dominion Parliament and of the Provincial Legislature bears a general resemblance to that existing in the United States; but there is this remarkable distinction,—that, whereas, in the United States, Congress has only the power actually granted to it, the Dominion Parliament has a general power of legislation, restricted only by the grant of certain specific and exclusive powers to the Provincial Legislatures (§§ 91–96)."

prevent the rise of that kind of discontent which gave rise to the silver agitation.

Of the two essentials in a note issue — security and elasticity — the latter is perhaps of the greater importance when the banks must play a large part in the development of the resources of the country. Legislation dealing with banks has generally been enacted on the assumption that there was almost an incompatibility between the two essentials. Legislators have generally been impressed most strongly with the idea of their duty of safeguarding the public interests, and the public seemed to need security against that elasticity or fluctuations in the issues in which lay the banker's profit. The banking history of Canada is one long proof that there is no such incompatibility, and that stability and elasticity may be both secured; for by a series of happy compromises the maximum of stability has been obtained without in the least impairing the elasticity of the issues. The need of a new country is elasticity, not to facilitate the management of the reserve in the time of a commercial crisis, but for the ordinary every-day work of developing the country. The interest of every new country, not merely of the banks, but of the people, is in having at all times plenty of money. The danger is that this interest will lead the country to demand soft money; and the banking legislation of the United States was designed to prevent the possibility of "wild-cat" banking. But in Canadian history there have been no soft money episodes. There have been times in 1838 and in 1880 when there was a dangerous demand for cheaper money, but the danger has been averted. This immunity is, in the first place, due to the constant supervision which the Colonial Office exercised over the banking legislation of the colonies at the time when the character of the system was being formed. The home authorities were generally inclined to go too far in

their supervision, and repeatedly tried to foist the principles of the Bank Charter Act of 1844 on a country for which these were peculiarly ill suited. But the resistance of the bankers and of public sentiment was strong enough to offer an effective resistance to proposals which would have deprived the banks of half their efficiency in a new country ; while the pressure of the home authorities was persistent enough to prevent security from being altogether sacrificed to elasticity. It was due to the supervision of the Colonial Office that the bank suspension in Canada in 1838 did not leave behind it an evil tradition. The imperial government would indeed, if it had been able, have prohibited suspension until a bank was utterly bankrupt, and thus have forced the banks to abandon their customers, and precipitated the total bankruptcy of the colonies. In spite of Lord Sydenham the banks got their own way, and suspended ; but the imperial government was able to attach such conditions to suspension that the period was not unduly profitable. The bankers were taught then that an over-issue of irredeemable paper was not the best method of securing dividends. Bank dividends generally fell instead of rising, in consequence of suspension ; and the banks were never afterwards inclined to look back to this time as a golden age of high earnings.

Since then the banks have been called at various times to resist attempts to deprive the issues of their elasticity, made by the provincial and federal governments with the specious profession of further safeguarding the interests of the people ; but they have always been able to defeat the proposals. The general form of these proposals has been to introduce a system of special security, and the ill-concealed motive has frequently been to raise the price of government securities. The bankers were able to point to the actual security under the system as they practised it, and could say, without fear of contradiction, that the public interests had not suffered ; that, under the con-

ditions of Canadian business, public interest would suffer if special security, whether of bonds or specie, were required, because a secured issue meant a diminution of the accommodation that could be offered to customers; and that the government was placing its own financial necessities above the convenience of the people.

The consequence of these recurring attempts has been that the bankers themselves sought to remedy any deficiencies in the system, and to suggest means of rendering assurance doubly sure. They suggested greater publicity of accounts. They suggested the Bank Circulation Redemption Fund, and have always been ready to discuss proposals, not merely from their own point of view, but also from the public point of view. Thus there grew up a disposition in the country to look to the banks themselves for suggestions for reform. Banking legislation in Canada has absolutely ceased to be, if indeed it ever was, subordinated to the exigencies of political parties, and is regarded as entirely a matter for experts. The money question is not in Canadian politics. Seeing the willingness of the banks to adopt necessary reforms, and aware in an obscure fashion that elasticity was at least as important as security, the public has come willingly to accept the decisions of the experts. The banks are not regarded with any suspicion; and there has been no cry for cheaper money, because these experts, in providing for the security of the issues, have not sacrificed their elasticity.

So long as this opinion prevails, there is not much chance for a violent agitation for cheap money. The needs of the community are well supplied by the banks, there is no popular suspicion of the banks, tradition is against interference with the currency; and so, although the Canadian government is perfectly competent to adopt free silver or free paper, there is not much likelihood that it will be asked to. Moreover, although the imperial government no longer either claims or exercises any supervi-

sion, although, indeed, it has expressly renounced all claim to interfere in any way with the currency of the Dominion, there has grown up, since responsible government was granted, a very efficient substitute, in the desire to follow English precedent. English precedent and example count for much in Canada, and this reverence was one of the minor reasons for the strength of the sentiment in favor of the gold standard. The extravagant denunciation by the silver men of the English money power only tended to strengthen the Canadian attachment to the English standard. That it is possible to be English, and yet not to approve heartily of any and every thing done in England or by England, it seems difficult for many Canadians to conceive; and any one who offers to tamper with the English gold standard seems guilty of something like high treason. The writer had occasion some years since to say some things in favor of bimetallism in a public address, and he was sternly informed by the local government organ that he was not paid by the government to teach anti-English and unpatriotic ideas.

The note issues, though no special reserve is required, are regulated and restricted in the interests of the people. There is, on the average, nearly ten dollars behind every dollar issued; and in 1895 more than twenty millions was held in specie and Dominion notes to secure the immediate convertibility of a circulation of little more than thirty millions. The regulations, however, are of such a nature as not to impair that elasticity which is essential in a country where business is subject to periodical fluctuations. The annual closing of navigation, and the relative importance which the seasonal industries of agriculture and lumbering have in the total of Canadian internal and external trade, render it extremely desirable that the circulation should be elastic enough to fluctuate with the changes in the volume of business. A provision requiring either a fixed or a proportionate reserve, or a

bond-secured circulation, would result in alternate scarcity and inflation, with results fatal to the steady development of the country. More money is required at some seasons of the year than at others, and the banks are permitted to meet the demand as it arises. There is no danger of permanent inflation. Owing to the competition of the banks and the development of branch banking, excessive issues cannot remain out. The extra issues in the fall of the year are returned to the banks as the volume of business decreases and fewer customers ask for accommodation. The periodical fluctuations in the Canadian issues supply a most perfect refutation, if one were needed, of the principles of the Currency School.

When business increases, the volume of the currency expands with it; and there is never a currency famine in the country. When business is brisk, accommodation can be obtained as easily and as cheaply as during the dull season; and the bank rate remains steady throughout the year. Owing to the competition of the banks and the large number of branches, the issues in excess, when the volume of business contracts, are automatically returned for redemption; and there is at all times just sufficient money to transact the business of the community. The annual average circulation per capita in Canada is small; but, owing to the regular expansion and contraction, the needs of the country are always supplied. Though a maximum limit is placed to the issues of the banks,—the amount of their unimpaired capital,—the limit has never been reached. The banks are not able to put out or keep out the whole amount of the notes they are entitled to issue. A few banks issue almost up to the maximum, but the proportion of the total bank circulation to the capital has seldom been much in excess of fifty per cent. There is thus room for a very large increase in the business of the country; and, before the maximum is reached, banking will be so profitable that the banking

capital of the country in one way or another will be largely augmented. The temporary needs are well supplied, and for a long time the banks could meet any permanent increase without making any new arrangements.

The branch bank system, which enables the banks to expand and contract their issues according to the needs of the business of the country, also has the effect of preventing any local currency famine. The banks are as able to grant accommodation in remote country districts as in the commercial centres. They are not organized as agricultural banks, yet they serve all the useful purposes of agricultural banks. The farmer in the Far West and the lumber operator in the Maritime Provinces pay little more for accommodation than the merchant in Montreal or Toronto. The rate of discount varies from six to eight per cent., as low a rate as can be obtained in America, except in a few of the Eastern financial centres of the United States. The Canadian banks are enabled thus to equalize the rates by means of the branch bank system which they have adopted. There are more than five hundred branches of the thirty-eight chartered banks; and through these branches the banks are able to collect the available capital of the country, and to lend it where it is most needed. It is not the farmer who has any ground for complaint. He obtains accommodation for seven or eight per cent., while the Western farmer in the United States pays twelve or fifteen. If any one has reason to complain, it is the Eastern borrower, who is thus deprived of whatever advantage he might derive from a low rate. The banks draw off the surplus capital of the East, to distribute it evenly over the country, with the consequence that the rate is higher where capital is accumulating than it would otherwise be. But the class which suffers is not likely to be carried away by arguments for soft money; while the farmer, who might yield to the

temptation, is benefited by the system. The system is one adapted to assist in developing a new country. In the United States a bank would not be organized till the business of the district was sufficient to warrant it, and even then there would be no material increase of capital available. In Canada the new district can draw, according to the discretion of the local and the general manager, on the capital collected in more settled parts of the country; and, so long as there are districts requiring development, so long the system will be the one best suited to the needs of the country. At present it is admirably suited for the development of the country, and the perfection of its adaptation has hindered the rise of that discontent which found expression in the United States in a demand for free silver.

Had Canadian banks been restricted by legislation to a system which would not permit them to avert local and temporary currency famines, the assistance they have rendered to the farmer and to the development of the country could not have been given. But in the absence of government bonds the branch system has been encouraged; and the local banks, which reproduce the limitations without the safety of the national banks of the United States, are not increasing in number. Since 1885 no new bank has been chartered, while the number of branches has nearly doubled. This means not only an increasing safety to the community,—for the dangers of the discretionary system are in the existence of small local banks with local management and local risks,—but also an increasing adaptation of the system to the needs of the country. The presence in remote districts of agents of the large banks allays any suspicion of the distant money power, and creates a general impression that the banks are the servants of the community. The wider area of their operations on account of the existence of branches makes the banks pursue a larger policy. They

must protect and accommodate their country customers as well as their city customers; and they are more ready to do so, because these country customers are a main source of their profit by rendering it possible to put out and to keep out a larger proportion of notes. There is, therefore, a solidarity of feeling throughout the country; and the remote districts have never had any cause for regarding the money men of the financial centres as their natural enemies.

In this absence of mutual suspicion and distrust, and in the complete adaptation of the banking system, which is the main cause of the feeling of solidarity, we find the fullest explanation why there has been no silver question in Canada.

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MONETARY CHANGES IN JAPAN.

I.

(1871-77.)

THE history of Japanese currency, so far as it concerns the purposes of the present article, dates from about the year 1871. The disorganization immediately following the Restoration in 1868 prevented the national government from taking any effective steps in the direction of monetary reform; and, in consequence, the local lords (*daimyo*) took advantage of the existing confusion to flood their territories (*han*) with depreciated paper. In a government ordinance issued in 1869 the bare outlines of the modern system become visible. According to this law, a mint was to be established in Osaka, and a standard silver coin was to be struck on the model of the Mexican dollar. This coin, called the "yen," was to contain 416 grains, $\frac{1}{10}$ fine, and was divisible in 100 sen and 1,000 rin, corresponding to American cents and mills. A subsidiary coinage of silver, with fineness reduced to $\frac{1}{12}$, and a copper coinage were authorized. In addition, provision was made for gold coins (10 yen to contain 248 grains), which, however, were in no sense to form part of the current money of the empire. The declared purpose of the Japanese government, at this time, was to make the silver yen the standard coin of the country.

At the end of the following year (November, 1870) the mint, under the energetic administration of foreigners, began operations. But the work had scarcely begun when the government determined to abandon the silver standard, and to adopt the gold standard. Why this change was made has never been definitely ascertained. The explanation ordinarily given is that certain Americans, then employed as advisers of the Department of Fi-

nance, were responsible for this step. In May, 1871, the silver standard was discarded; and the gold yen, containing $1\frac{1}{2}$ grams of fine gold (25.72 grains, $\frac{1}{10}$ fine), was adopted as the unit of value. The silver yen was to be coined only in response to a specific demand upon the government, and its use limited to foreign exchanges and to the payment of customs dues. Further, it was enacted that 100 silver yen were to be equivalent to 101 gold yen, in payments to the government,—a measure clearly intended to discourage the use of silver.

To the decree of May, 1871, accordingly, is due the existence of the gold yen, or dollar, which, after various vicissitudes, we shall find rising in a new form in the gold currency scheme of 1897. It is impossible to find fault with Japan for adopting gold as the standard of value in 1871. At that time her trade with the other silver-using countries of the East was still on a very small scale, and she could hardly appreciate the advantage of having a standard in common with her neighbors. Nor at that time was there any definite advantage for either metal in any other respect. Gold and silver, from the beginning of the century to the year 1871, had preserved such steadiness of value in relation to each other that it could make but little difference to a small country like Japan whether it adopted one or the other metal, or both, as her standard. To criticise adversely the measure of 1871, as some writers have lately done, merely shows that they do not understand the general monetary situation of that time.* In the light of present knowledge and experience it may be considered a mistake, but in the year 1871 the world was still living in happy ignorance of its future monetary troubles.

On the 2d of August, 1871, the mint at Osaka was declared to be ready for the coinage of the new money;

* In Rathgen's *Japan's Volkswirtschaft und Handel*, p. 164, there are some comments on the policy adopted in 1871 which show no very judicial grasp of the situation at that time.

and during the next two years the government made vigorous efforts to insure the success of the gold standard. During the years 1872 and 1873 about 44 million yen of gold coins were minted. But the amount of gold in active circulation was very trifling, even during these two years; and the final result of these measures was failure. This failure was due mainly to the large quantities of inconvertible paper issued by the general government, in part to cover its extraordinary expenditures at this time, in part to fill the void left by the withdrawal of the local issues. In 1874 a slight premium on gold appeared, and the coinage of gold in the mint rapidly fell off. In the fiscal year 1875-76, only about 382,000 yen were minted. From the opening of the mint in 1871 to June 30, 1876, the total amount of gold coined was somewhat less than 51,000,000 yen, of which, according to customs returns, more than one-half was exported to foreign countries.

In March, 1875, Japan made an attempt, in imitation of the American scheme, to coin a trade dollar. This was a coin of 420 grains, $\frac{1}{5}$ fine. Its evident purpose was to oust the Mexican dollar from circulation in the treaty ports of the East. After a few years of unsuccessful trial (in all, only 3,056,638 trade dollars were coined) the whole scheme was abandoned in 1879. One noteworthy result of the experiment was the decree of May, 1878, in which the common silver yen (416 grains, $\frac{1}{5}$ fine) and trade dollar were made legal tender on an equality with the gold yen. Had gold coin been in active circulation at this time, the effect would have been no less, probably, than to drive it out of circulation, as silver already had depreciated considerably in terms of gold. But little importance was attached to this measure at the time, because both silver and gold stood at a premium compared with the paper money then in circulation. Probably no one knew precisely what would be the ultimate effect of the change. But the decree of May, 1878, committed

Japan to a bimetallic system. The single gold standard, after a trial of seven years, was definitely abandoned, and not resumed until the present year, when, as we shall see, it was again introduced under entirely different auspices and conditions. During the period from 1871 to 1878 the attempt to establish a system of metallic money in Japan was not successful; yet the period is important because, by the organization of the mint and other institutions, it prepared the way for later legislation.

The history of the inconvertible notes issued by the general government, and more especially by the local authorities, during this period, is exceedingly intricate and confused. Fortunately, it has but little bearing on the present subject. When the mint was opened in 1871, the inconvertible paper was at a slight discount compared with the silver circulating in the open ports. This state of things lasted till the early part of 1873, when gold pieces were issued from the mint in large numbers. It was the purpose of the government to withdraw all the outstanding paper from circulation, but the demands of the treasury at this time were so great that the purpose was postponed from time to time. The whole system of taxation was in a state of complete disorganization until 1876-77, and the revenues of the government were insufficient to meet any but the most pressing expenses. A small premium on gold and silver, never exceeding 2 per cent., made its appearance in 1874, during the political complications with China regarding Formosa. In the following year the divergence between gold and silver, that has been at the root of so much monetary discussion in the last two decades, became serious. In 1876, during the first important panic in the silver market, the value of paper was higher than that of silver, 94 yen of the former exchanging for 100 of the latter. The premium on gold at this time ranged from 4 to 5 per cent. At the beginning of 1877, however, paper, gold, and silver yen exchanged for each other at par.

II.

(1877-82.)

In the spring of 1877 the civil conflict now known as the Satsuma Rebellion broke out in the south, and the government was called upon to make heavy outlays to preserve its existence. The immediate effect of the news of the uprising was to lower the value of the paper currency, but the premium on silver during the year 1877 remained within very moderate limits. The average premium for the year was $3\frac{1}{2}$ per cent., while at the end of the year it was only 3. From the beginning of the year 1878, however, the increase of government paper was rapid; and the premium on silver rose to figures never dreamed of before. A form of speculation new in Japan made its appearance, speculation in silver soon becoming the centre of all other kinds of speculation. With the increase of paper money, prices of commodities rose, and, following these, great commercial activity, rapid transformations of wealth, extravagance, and superficial prosperity. Many Japanese thought that the then government had discovered the touchstone of wealth; while others, noting the over-trading, speculation, and absence of any solid development of industry, predicted disaster.

At the same time that the government was flooding the country with inconvertible paper, the rapid increase of national bank notes helped to swell the currency. The first national banking law was adopted as early as 1872, in imitation of the American system. It proved almost futile. Only four banks were organized under it, three of which soon afterwards failed. This want of success was due mainly to the provision requiring notes to be convertible into gold on demand, which cut off all possibility of a bank-note currency, when gold itself was scarcely seen in circulation, and at times commanded a premium.

A revised national bank law appeared in 1876 (August 1), in which, among other changes, the significant provision was made that the notes should be convertible merely into lawful money. The effect of this new arrangement was scarcely felt at first. During 1876 only one national bank was established; but with the rapid increase of interest-bearing bonds issued during the Satsuma Rebellion, and the extraordinary depreciation of the government paper, the banking business became correspondingly profitable, and national banks were established in all parts of the empire. In 1877 twenty-one were established; in 1878, sixty-nine; in 1879, fifty-eight. At the beginning of the year 1880 there were in existence no less than 153 national banks, with a total circulation of over 34,000,000 yen.

The addition of this large amount of convertible bank-notes to the inconvertible paper already in circulation tended to increase the very evils the new banking system was designed to obviate. The number of banks in existence in 1880 was beyond all the reasonable necessities of commerce and industry, as then carried on. Many of the banks engaged in the business of speculation and of aiding speculators, far more than in legitimate operations. The premium on silver, which had averaged $8\frac{1}{2}$ per cent. in 1877 and 9 per cent. in 1878, now rose to extraordinary heights, and fluctuated wildly from day to day. These years are still remembered in Japan as a time of great excitement and activity. Farmers received more than double the normal price for rice and other farm products. Their expenditure increased, especially for luxuries. Speculative enterprises of every description were floated, — steamship companies, silk-mills, and canal companies. What was the precise amount of paper in circulation during these years is not known, as the government did not at that time officially state the correct figures. In the following table are given the best attainable statistics:

Year.	Premium on Silver.	Paper in Circulation.	
		Official Figures.	Actual.
1877	103.4	103,054,000	120,000,000
1878	100.2	137,884,000	160,000,000
1879	121.2	146,490,000	170,000,000
1880	147.7	143,098,000	160,000,000
1881	170.4	140,385,000	157,000,000
1882	157.0	140,082,000	152,000,000

III.

(1882-86.)

About the end of 1881 the expansive movement reached a climax. During the following year there was general complaint that trade was stagnant and money scarce. Added to this was a profound distrust in the financial administration of the government. The promises of the government had not been redeemed. The metallic reserves of the treasury in the year 1882 were less than during the previous two years. The endless fluctuations of the premium on silver lost their interest for all classes except the professional speculators. The stimulus to industry in the days of the expansion of the currency disappeared, and was followed by apathy. More especially the price of rice began to fall in the year 1882 in spite of the high premium on silver; and, with the decline in the price of this staple, the farmers lost their interest in the depreciated currency.

In the year 1882 the new Minister of Finance, Count Matsukata, determined to carry into effect measures for resuming specie payments in silver at the earliest opportunity. It is needless to describe in detail the various means whereby the silver premium was gradually reduced and the paper currency restored to par. It was the determination of the government not only to restore the value of the paper currency, but to place the entire credit system on a better footing. To carry out this plan, three

measures were adopted: first, the gradual reduction of the legal tender paper and the accumulation of a sufficient metallic reserve, mainly silver; second, the gradual diminution of the national bank notes and the final abolition of all issue power for these banks at the expiration of their charters; third, the establishment of a central bank, the purpose of which was to assume at the end of a certain period the entire control of the note issues of the country.

These measures were carried vigorously into execution. Interest-bearing bonds were issued, the proceeds of which were used to withdraw a certain amount of legal tender notes from circulation. In addition, the surplus of the budget was employed for the same purpose. The notes which the government had secretly issued were first withdrawn, so that gradually the actual circulation and the official figures of outstanding paper squared with each other. The Finance Department of the government introduced various economies. Various taxes were increased, in order to swell the income of the government. The tax on *saké* (wine) was doubled (from 2 yen to 4 yen per koku). The tobacco tax was augmented. A new tax was levied on proprietary medicines. Postal fees were raised; and, finally (1884), a tax on shipping and a stamp tax were imposed. In consequence of these measures and in spite of falling prices, the resources of the government gradually increased. The total internal revenue for the fiscal year 1881-82 was only 57,000,000 yen, but for 1882-83 was 63,400,000 yen; for 1883-84 was 62,600,000 yen, and for 1884-85 was 62,240,000 yen. With falling prices the imports gradually diminished and the exports increased, leaving a balance of trade to be paid in silver, which the government by various means gathered into the treasury. The value in silver of the imports in 1880 was over 41,000,000, while in the years 1883-85 it averaged scarcely 32,000,000 yen. The value of exports rose from

29,300,000 yen in 1880 to 39,500,000 yen in 1882, 38,500,000 in 1883, and 37,100,000 in 1885; and even in the year 1884, when the silk crop was a failure, the total exports tallied 34,000,000 yen. In order to accumulate a large reserve of silver in the treasury, the government entered into business relations with the Yokohama Specie Bank, an important corporation dealing in foreign exchange. This bank handled Japanese exports abroad, and collected the proceeds in specie for the government.

As regards the national banks, no immediate action could be taken to lessen their number, as their charters were granted for twenty years. But, with the falling premium on silver and the decline of speculation, the circulation of many of the banks gradually contracted. Several went into liquidation (two in 1882 and two in 1883). Moreover, after 1882, the law as to the reserves and investments of the banks was more strictly applied; and the outstanding paper was absolutely limited to the legal amounts. The total circulation of the national banks, which had been considerably over 34,000,000 yen in 1881, was only 30,500,000 yen in 1885, and in 1889 had shrunk to 26,700,000 yen. At present (1897) a large number of the charters have either expired or are approaching expiration; and, in consequence, the total circulation is comparatively insignificant.

The establishment of the Central Bank (Nippon Ginko) could not directly promote measures of resumption to any great extent. This bank was founded in the year 1882, with a capital of 10,000,000 yen, which has been increased from time to time, until at present it is 30,000,000 yen. It was authorized to perform the general business of banking, to hold the deposits of the government, to assist the government with loans in time of need, and to issue convertible notes. The last function was and is the most important. The purpose of the government in founding the bank was to make it the sole bank of issue in Japan,

and thus to have its notes take the place of the national bank notes and treasury notes at the earliest opportunity. This purpose has been steadily kept in view, and to-day the Nippon Ginko notes alone are commonly seen in circulation in Japan. The establishment of the bank gave the government a power of controlling the convertible issues—and through them the credit of the country—such as it never possessed before, and contributed to a feeling of confidence in its financial stability.

In these various ways the premium on silver gradually declined after 1882. Speculation in shares moderated very much with the fall of the silver premium; and, more important than all, prices fell decidedly. On June 6, 1885, the government felt strong enough to issue a notification that all the notes were to be convertible into silver yen after January 1, 1886. The government assumed but little risk in making this announcement. At the end of May the premium on silver had dwindled to 1 per cent., and at the end of June had entirely disappeared. On June 27, 1885, for the first time since 1876, the paper yen was on a par with the silver yen. On January 1, 1886, when the government officially resumed specie payments, there was no question in the public mind of any possible failure. At this time the legal tender notes outstanding amounted to 83,384,000 yen, the national bank notes to 30,093,000 yen, and Nippon Ginko notes to 3,653,000 yen. The figures for the entire period of contraction are as follows:—

Year.	Average Premium.	Paper in Circulation.	
		Official Figures.	Actual.
1882	157.0	140,000,000 yen	152,000,000 yen
1883	126.5	132,600,000 "	138,400,000 "
1884	108.8	124,800,000 "	125,400,000 "
1885	105.8	120,400,000 "	120,400,000 "
1886 (January 1)	100	*118,400,000 "	*118,400,000 "
1886 (April 1)	100	108,600,000 "	106,600,000 "

* Not including 3,653,000 yen of the notes of the Central Bank.

Whether the measures to secure resumption were wisely carried out is a question as easy to ask as it is difficult to answer. When we remember that the government had to deal not only with the legal tender notes publicly issued, but also with a large amount issued secretly for causes not now known, it must be confessed that the task was not an easy one. Yet the general impression in Japan is that the contraction of the currency was unnecessarily severe and sudden. During the period of contraction, extending from the beginning of the year 1882 to 1886, all the industrial interests of the country suffered from intense depression. There was general complaint of lack of demand and scarcity of money. From the farmers came a bitter cry of distress. The average price of rice in the year 1880 had been 9 yen per koku;* and at this rate the entire land tax, which falls mostly on rice land, could be discharged by means of 6½ millions of koku. In the year 1884 the price of rice averaged scarcely 4½ yen per koku, and 13 millions of koku were required to discharge the same tax. The increase of other taxes also operated to the disadvantage of the farmer. The consumption of nearly all minor luxuries, as tobacco and saké, declined rapidly. Many mills were closed, especially those engaged in spinning and weaving. Bank dividends fell off seriously. The number of unemployed increased both in the cities and smaller towns. Laborers not only suffered from want of employment, but from low wages. During the years 1882-85 wages fell without intermission, and in the last year were hardly more than one-half of what they had been in 1882. The number of petty crimes and misdemeanors rose steadily. It was at this time, too, that the farming classes mortgaged their lands, and complained bitterly that they could not meet their obligations. All in all, when Japan resumed specie payments on January 1, 1886, the economic outlook was

*The koku = 6 bushels.

as gloomy as at any time since the year of the Restoration (1868).

IV.

(1886-97.)

From the year 1886 to the beginning of the year 1897 the history of the currency of Japan has been comparatively free from important incident. As already indicated, there has been a threefold movement: gradual withdrawal of government legal tender notes and national bank notes from circulation; rapid increase of the notes of the Nippon Ginko; increase of the coined silver yen, both those in active circulation and those held as a reserve in the Nippon Ginko. The following figures show what changes have taken place:—

Money in Circulation (in Yen).

	<i>National Bank Notes.</i>	<i>Nippon Ginko Notes.</i>	<i>Legal Tender Notes.</i>	<i>Silver Coin (one Yen).</i>
January 1, 1886	30,500,000	18,450,000	89,880,000	19,102,000
January 1, 1897	16,497,000	191,108,000	9,376,000	32,068,000

During the entire period of inflation, silver had declined seriously in terms of gold. At the time of resumption in 1886 the value of the silver yen was about 78 cents of the American gold dollar, but there was then no question of resuming on the gold standard. From 1886 to 1897, a period of over a decade, it is doubtful whether there was the slightest demand for return to the gold standard. On the contrary, every so-called decline of silver was hailed with general satisfaction by those engaged in industrial and commercial pursuits. During the years 1887, 1888, and 1889 the value of the yen in terms of gold was fairly steady, with a general tendency to decline. In 1889 the average value was 75 cents in American gold. In the year 1890 the passage of the Sherman Act in the United States had the effect of suddenly raising the yen

to above 90 cents (gold), and the average value for the year was above 82 cents. But during the next two years the yen once more resumed its downward tendency, averaging about 78 cents in 1891 and 70 cents in 1892. The closing of the Indian mints to silver in the summer of 1893 produced a sharp decline, lowering the value of the yen to about 60 cents; and the repeal of the Sherman Act caused a further fall, making the yen worth only 50 cents of American gold, or, in round number, one-half of its former value in terms of the old gold yen. Between the years 1894 and 1897 foreign exchange in Japan fluctuated within very moderate limits. Within this period the yen fell as low as 47 cents and rose as high as 55 cents. During the entire period of the China war (1894-95) the fluctuations of exchange with gold countries varied scarcely more than between New York and London, and it is to be noted that during this time Japan was a purchaser of foreign goods on a much larger scale than usual.

What was the effect of this decline of the gold value of silver on the industries and commerce of Japan? It would require a separate article to treat this question in detail, but a few words may be devoted to the general aspects of it.* In the period from 1890 to the beginning of 1897 Japan in nearly every department of her industry and commerce expanded more than in the previous twenty-five years. The general imports for the year 1889 were valued at 66,230,000 yen, while for the year 1895 they were over 138,000,000 yen. The exports during the same time increased from 70,176,000 yen to 136,000,000 yen. During this entire period the demand for labor, both common and skilled, has augmented to a remarkable extent. Particularly, the demand for workmen in the manufacturing centres, like Osaka, Tokyo, and Kyoto, has been so great that the supply sometimes fell short. In cotton-

* See an article on *The Currency of Japan in Relation to its General Industry and Trade*, written for the State Department in Washington, and printed in Vol. XIII., Part II., of the *Special Consular Reports* (1897).

spinning, the most important manufacturing industry in which Japan competes with the nations of the West, the progress has been most rapid. In 1890 there were at work in Japan 253,456 spindles, while at the beginning of 1897 the number was no less than 800,000 spindles. The expansion of railway traffic is another feature of this time. The gross receipts of the government railway in the year 1889-90 were 3,955,000 yen, and net receipts 2,184,000 yen; while for the year 1896-97 the gross receipts were 8,273,000 yen, and net receipts 4,457,000 yen. All other railway lines in Japan show a similar advance. The growth of general railway traffic has gone hand in hand with the increase of railways. While the government has not undertaken any new construction in this period, private railways have advanced year by year. The total mileage in operation was only 913 miles in 1888-89, while it was no less than 2,273 miles in 1895-96. The shipping of Japan corresponds to the development of the railways. In the past seven years not only have new companies and new lines been established, but the older shipping companies have augmented their tonnage in a most striking way. The total tonnage in the year 1889 for all merchant ships registered under the Japanese flag was 108,000 tons, while in 1897 the total tonnage was no less than 250,000 tons. Parallel with this advance in industry and commerce has been an advance in the wages of labor. In the past seven years, though the rice crop (by far the most important article of food in Japan) has twice been much below the average, though the silk crop (the most important article of export) has several times suffered severely from unseasonable frosts, though flood and storms have frequently ravaged portions of the country, there has been little complaint of falling wages or lack of employment. Certainly, nothing like the phenomenon of the unemployed that has been witnessed in America in the past seven years has ever been seen in Japan. All investiga-

tions show that the money wages of labor are at present nearly double what they were in 1889.

Can we trace any connection between this remarkable industrial development and the silver standard of Japan? No one who has studied the economic progress of Japan could hesitate to answer in the affirmative. In the first place, it is well known that prices in Europe and America have continuously fallen in the past twenty years,—a process from which Japan has been entirely free. As an importer, Japan has been able to buy precisely as many foreign commodities with the silver yen at 50 cents (gold) in 1894 and 1895 as she was with the yen at over 100 cents (gold) in 1873. The silver price of raw cotton was as low in 1894–95 as it was twenty years before. The silver prices of all kinds of imported iron and steel, of woollen and cotton goods, were as low in the former as in the latter year. As an exporter of goods, as cotton yarn, silk, tea, porcelain, Japan has not suffered any serious decline of prices, as have the countries of Europe. More important than this, however, is the fact that, wherever a Japanese commodity came into competition with a commodity of Western nations, she could undersell them without any reduction of price. It was invariably England or America that yielded in price to Japanese competition with every decline of silver. And, if the importer of foreign goods in Japan wished to keep the Japanese market as against the Japanese producer, the former must always submit to a reduction in price with every so-called decline of silver; while the latter need only retain his old price, or could even advance it without danger. Thus with every decline in the gold price of silver Japanese industries had a new opportunity for expansion. The silver standard in Japan proved to be a most remarkable and peculiar protective measure,—entirely free from the objections to a protective tariff,—at a time when Japan could most profit by it. It was a time when Japanese

capital and labor were on the point of entering into the great mechanical industries, in which Japan had had but little experience compared with the people of the West. Even the advocates of the gold standard in Japan have not been able to deny the great benefits she has derived from the silver standard.*

In the second place, the countries about Japan, such as China, Corea, Hong Kong, Manila, and the Straits Settlements, are all on a silver basis; and their interests with her are very important. They not only accept the silver yen as a standard coin, but prefer it to the Mexican dollar, which formerly dominated the East. Japan's commercial relations with these countries have had an advantage from this money standard, as it furnished her with a stable par of exchange, which she would not otherwise have possessed. Not only has the acceptance of the silver yen in all parts of the East been a source of profit to Japan, but it has enabled her to secure a prestige in the East, and to become the dominating commercial and political power. Japan aspires to be the carrying power among Oriental nations,—“the England of the East,” as the Japanese phrase it. Within the past fifteen years the extension of Japanese shipping and trade in these regions has aroused the attention of all the older European and American competitors for this trade.

In Japan itself the advantages she derives from her silver standard have been generally admitted. Among manufacturers the feeling that they owe much of their success to silver has been most pronounced. Among the

* Thus Count Matsukata, in his speech on the gold standard, delivered March 3, 1897, says, “It is probable that the trade of our country has . . . benefited more or less by the depreciation of silver,” but adds, “Such benefits will disappear when prices and wages rise to the same extent as silver has depreciated.” Count Matsukata is a firm believer in the theory that silver has depreciated rather than gold appreciated in the past twenty years. But, even granting that he is right, is it not likely that, if Japan has been able to establish on a firm and profitable basis certain important kinds of industry, she will be able to retain this great advantage for the future against foreign competitors better than if she had existed on a gold basis?

farming classes the feeling has been weaker, though favorable, so far as it existed at all. The farmers who found themselves so deeply indebted in the years immediately following resumption have since recovered some of their old prosperity. Exporters of Japanese commodities generally regarded declining exchange with satisfaction, since it either gave them higher prices for their commodities or stopped a fall of prices. Importers were naturally of the opposite opinion; but, as they indirectly benefited from the resulting prosperity to Japan, they can hardly be said to have fair grounds of complaint. During the past six years the imports of Japan have steadily grown with her general expansion. One class, indeed, disapproved of the silver standard in Japan,—a class which, though small, was armed with great power to accomplish its ends,—the officials of the government. Many of these have been educated abroad, and readily take the Western, and especially the English, point of view in regard to monetary questions. They have their theories of the superiority of gold, of its stability, its higher intrinsic value, its expanding use in civilized countries, the demand for it as war treasure.

V.

(1897.)

The measures for reverting to the gold standard in Japan were closely connected with some intricate and not very reputable political jobbery in the Japanese Parliament. When the session opened in December, 1896, there was every indication that a conflict would occur between the government and the Lower House. Count Matsukata, the Prime Minister, and Count Okuma, the Minister of Foreign Affairs, who were the active organizers of the cabinet, could count only on the votes of one

political party (Shimpoto), the number of whose representatives was less than one hundred out of the entire three hundred. The other two political organizations, the Liberals (Jiyuto) and National Unionists (Kokumin Kyokai), though unfriendly to each other, were known to be bitterly opposed to the existing government and its allies. The Japanese newspapers were unanimous in believing that the government could not secure a majority in favor of its measures, and predicted a stormy session. But, to the surprise of the newspapers and the public, this expectation was not realized. During the early part of January a curious process of dissolution was observed within the ranks of the opposition parties. Nearly one-third of the members of both these parties resigned their membership, and declared that they intended to vote independently of their party organizations. When the first bill came up for discussion, it was evident that, by some undiscovered means, the government had scored a complete victory against the opposition parties. Instead of having barely two-fifths of the members in its support, it had secured more than three-fifths, or a majority of between thirty and forty; and this majority stood ready to sanction every measure introduced by the government. Never was a parliamentary session so barren of debate and so fruitful in measures. No previous cabinet had ever secured so tight a grip of the Lower House, or held it so firmly to the end of the session.*

The first mutterings of a possible change of standards in Japan were heard early in February. It was noted that the government had been investigating the monetary question for some time, with a view to laying a bill be-

* Nearly all the Japanese newspapers openly declared at the time that the government accomplished this act of *tergiversation* on the part of the members through a liberal use of pecuniary bribes. Whether a direct form of bribery was employed may never be known. There is no doubt, however, that the government made use of the "spoils system," in order to gain its object. After the session the supporters of the government were rewarded with offices to an extent previously unknown in the parliamentary history of Japan.

fore Parliament. Various officials of the government were actively in favor of a gold standard. The newspapers began to discuss the question from every point of view. Some declared immediately for the gold standard; others favored gold, but thought the time unpropitious, and urged delay; still others as resolutely advocated the retention of the existing standard. The bill, as drawn up by the government, was introduced into the Lower House March 3; and the Prime Minister's speech in support of the measure was delivered on the same day. The total number of days given to the consideration of this important bill was eight, and the entire debate was concentrated into less than eight hours. On March 11 the closure was moved. The first reading of the bill was carried by a vote of 151 to 96. The House then voted to carry the bill to a second reading, then to proceed with the second reading, voted the second reading without debate, voted the third reading in the same way, and complacently sent the bill to the Upper House. In the latter it was treated with similar despatch. It was debated but a few hours on March 23; the second and third readings were voted without delay; and it was finally passed by large majorities. The whole interval of time during which this bill was before the public and Parliament, from the first rumor of its proposal to the final stage of definite enactment, was less than two months.*

In this short space of time it was impossible to consider the merits and demerits of so important a measure. There was no debate worthy the name among the members of either the Upper or Lower House, with perhaps a single exception.† The same members who had favored the other measures of the government gave their votes to this. Judging from the manner in which the bill was

* It was sanctioned by the emperor on the 26th of March, and promulgated as law on the 29th.

† Mr. Taguchi, editor of the *Tokyo Economist*, strongly opposed the measure.

treated, we may doubt whether those who voted for it had more than the haziest conception of its importance. On the strength of promises that the gold standard would be a means of advancing the commercial and industrial interests of Japan, the government in a surprisingly short period forced through Parliament a measure which in any other country would have occupied the attention of the public for months.

The act as passed is simple in its principal provisions. It makes the gold yen the unit of value in place of the silver yen; and this gold yen is to contain precisely one-half the amount of pure metal which was contained in the former gold yen of 1871-76. As this old coin contained $1\frac{1}{2}$ grams of pure gold (equal to 4 *fun*, in Japanese nomenclature), the new unit is to contain $\frac{1}{2}$ of a gram of pure gold (2 *fun*), or 11.574 grains. The usual amount of copper alloy ($\frac{1}{10}$) is to be added, making the ten yen gold piece weigh 128.6 grains.* The coins are to be minted in three denominations,—five, ten, and twenty yen,—and are to be legal tender to any extent; while the silver yen is to be legal tender only to the amount of ten yen. Provision is made for legal tolerance, both of weight and fineness, of the new coins, and a period is fixed in which the silver yen can be converted on demand into gold.† It is further enacted that the coinage of silver yen pieces is to cease from the date of the promulgation of the law. The act fixes October 1, 1897, as the date when the gold standard is to go into effect. Other details of the measure are not important.

The first question that suggests itself in connection with this act is why the new unit of value should be

*The exact amount of pure gold in a five dollar American gold coin is 116.10 grains, in an English sovereign 113.0012 grains, and a ten yen Japanese gold coin 115.74 grains. Thus the Japanese gold yen is equivalent to 2 shillings and $\frac{1}{2}$ penny (nearly), or 49 $\frac{1}{4}$ cents American gold (nearly).

†This period is five years, but it is now believed that the government intends to introduce a supplementary law into the next Parliament shortening the period to one year.

fixed at just one-half of the old gold yen. It is obvious that there is a convenience in establishing this ratio, inasmuch as a considerable number of old gold coins are still held as reserve by the Nippon Ginko. But this is a very trifling consideration, as it is the purpose of the government to recoin all the old gold coins. One of the chief arguments of Count Matsukata, in his speech in behalf of the bill, was that the gold standard would prevent all further depreciation of money in Japan. If it is true that silver has depreciated in its general purchasing power during the past twenty years in Japan, why did not the government resume the gold standard in terms of the old gold yen, as coined in 1871-76? The same choice lay before Japan as lay before the United States at the close of the Civil War. The American government at that time could, without any gross breach of monetary morality, have resumed the coinage of gold at the market equivalent of the paper currency, always supposing she kept her contract with those who had obligations payable in the standard gold coin. And this, in effect, is what Japan has done. For those who complained of the depreciation of the silver yen, the only logical course was to restore the old gold yen of 25.72 grains to its former place as the standard unit of value. As a matter of fact, the government of Japan did not even give the market equivalent of silver in the new coin. The precise ratio between gold and silver, as established by the new law, is 1 to 32.44; while the market ratio between the two metals at the time the bill was presented was nearly 1 to 31 $\frac{1}{2}$. Thus the government overvalued gold to a certain extent, and actually strengthened the very tendency it disapproved of. Count Matsukata, in his speech, hardly meets this charge of inconsistency. He merely says, "It may be urged that this overvaluation of gold, however slight, will raise the price of commodities in proportion to its excess over the actual silver price of that

metal; but I do not anticipate any practical consequences of that kind." *

Two definite advantages lay before Japan in taking immediate action in favor of the new standard. The first, though scarcely mentioned by the gold advocates, is generally believed to have had an important influence in determining their attitude. This is concerned with the future fluctuations of the gold value of silver. The gold price of silver had not varied much from January, 1894, to January, 1897. A general belief existed in Japan that silver had reached its lowest point in terms of gold, and that the silver yen would not fall much below 50 cents (United States gold), or 2 shillings. The chances of a further fall were at least slight, as compared with those of a rise. Therefore, it was urged that, if the yen could be fixed in gold at near its existing exchange value, Japan, having exhausted all the benefits of the silver standard, would crystallize them into a permanent advantage. It was a sound instinct that told the Japanese that, if ever by international action the value of silver could be raised to its old relation with gold, their industries would suffer. If the so-called depreciation of silver or the appreciation of gold had been a source of benefit to Japan in the past, then a reversal of that process must be *pro tanto* injurious. From this point of view, Japan's adoption of the gold standard was rather a shrewd attempt to solidify all the advantages she had derived from the silver standard, a form of insurance against future dangers, than any objection to the silver standard in itself.

It must be confessed that, if this was the chief motive of the government in reverting to the gold standard, the secret was pretty carefully guarded both in Parliament

* Prices have risen sharply in Japan in 1897, in consequence, mainly, of the extraordinary rise in the price of rice, due to bad crop prospects. Had Japan remained on a silver basis (the gold basis, though not proclaimed by law until October 1, has been practically established), the rise in prices would undoubtedly have been ascribed, in many quarters, to the silver standard.

and in the Japanese press. Foreigners and the English press in Japan commonly ascribed the new legislation to this motive; but Count Matsukata, in his speech of March 2, scarcely alludes to it. The Japanese may have thought this consideration too obvious to need explanation, or it may be that their diplomatic sense of fitness prevented them from calling attention to what was so evidently a purely national consideration. Whatever the reason, their silence on this point is not a little strange.

Another motive for immediate action was the existence of a large indemnity due to Japan from China, a portion of which was already lying in gold to her credit in London. If Japan intended to accept the gold standard with all its risk and cost, no time was evidently more opportune than the present, when the gold was still unexpended. Besides, in using a portion of the indemnity for this purpose, she had the example of Germany as a precedent. For the second time in history a war indemnity would be used to reorganize the monetary system of a nation.

This second consideration was important only if Japan could secure specific advantages from the gold standard. Had she no pressing uses for the indemnity, had she an overflowing exchequer, such as Germany had in 1872-73, she might have employed the treasure in London to one purpose as readily as to another. But, in fact, the Japanese government has the utmost need of every fraction of income. Previous to the war with China the total national expenditure, both ordinary and extraordinary, did not average 90,000,000 yen per annum; and, as her income was slightly more than this, she was able to accumulate a surplus as a sort of sinking fund. Since the war the expenditure has nearly trebled, the budget for the coming year settling the expenditure, after much economy, at 230,000,000 yen, and the deficit at nearly 24,000,000 yen. Japan is certain to encounter a deficit in her annual

budget for a considerable number of years, in spite of the fact that the government has increased nearly every form of taxation. The extraordinary increase of the army and navy, the large orders for war-ships abroad, the augmenting public debt, the growing demand for public works, the extension of public education,—all these make it impossible for Japan to indulge in anything but the absolute necessities of public expenditure. As the new monetary system has involved an extra outlay of over 80,000,000 yen, it may be questioned whether Japan will reap advantages in proportion to the expense.

Besides these motives for the immediate adoption of the gold standard, various other reasons were brought forward in favor of the change.

1. It was said that Japan would have a more stable rate of exchange with Europe and America. Nearly seven-tenths of her entire trade (imports and exports) has to do with gold-using countries; and any uncertainty in this trade, it is urged, is a detriment to her interests. To this may be replied that, while a fluctuating exchange is a detriment to Japanese trade, she cannot escape this entirely by adopting a gold standard. Her trade with silver countries, while less than one-half of her entire trade, is large and growing. Japan's ambition to be the dominating industrial and commercial power of the Orient can be far better served by keeping a par of exchange with Oriental than with Occidental nations. Already she is meeting with certain difficulties in this respect. The money of Formosa has lately been restored to a silver basis, and the Empire of Japan has secured another point of resemblance to the British Empire in having both standards within her dominions. Since the enactment of the gold standard all Japanese commercial interests are dominated by a feeling of uncertainty. The price of securities has fallen. The exports of cotton yarn to China have nearly stopped. Not the most san-

guine advocate of the gold standard can assert that so far Japan has reaped any of the promised benefits of the great reform.

2. It was held that, under the gold standard, foreign capital would be more readily drawn to Japan. If this result could be attained under the new system, it would no doubt justify the measure to some extent. Japan, at present, suffers from a scarcity of capital. The rate of interest is very high, averaging, on good securities (other than government bonds), not less than 8 or 9 per cent. Many enterprises in recent years have been abandoned from the lack of loanable funds. During the past year the government has found it impossible to float any bonds at par, though they yield 5 per cent., and are not redeemable under twenty years. It is agreed on all sides that the introduction of capital from abroad would at present be a boon to Japan, and enable her to continue the career of expansion which, so far, she has enjoyed without serious drawback. If the existence of the silver standard has been the chief obstacle to the introduction of foreign capital into Japan, it is difficult to deny a certain merit to the new system. But the circumstances are quite otherwise. Foreign capital, it is true, is almost unknown in Japan at present; but the bar to its entrance has been not so much the existence of a different standard as the prohibitions of Japanese law. Foreigners have been forbidden to hold shares or stock of any kind in this country, cannot possess land outside of certain concessions in a few cities, and are limited to these concessions in the transaction of any kind of business.* The only securities foreigners are allowed to purchase are certain descriptions of bonds, most of which were issued during and since the war. It is the legal, and not the economic, barrier that is chiefly at fault for the want of foreign capital in this country. Since the enactment of the gold standard the

*Japan will be thrown open to foreigners as soon as the new treaties go into effect, probably in the course of two years.

government, it is true, has disposed of a single lot of bonds to foreign capitalists; but this sale could have been equally well transacted under the silver standard, had the government merely fixed the rate of exchange.* Were all the barriers that now legally exist to the influx of foreign capital into Japan removed, the silver standard would hardly prove a serious impediment.

But this motive, while prominently brought forward in certain quarters, was not, in fact, an important one. It may have had influence in commercial circles, but it was not likely to affect those who originated the measure. We must therefore look to other reasons that have been expressed in favor of a gold standard in Japan.

3. Among the most important of these is the example of other civilized countries in accepting gold and discarding silver during the past twenty-five years. Gold to-day is the money of civilized countries,—a metal all the more desirable because so many nations are eager to acquire it, while silver is the generally discredited money, only fit for inferior peoples and civilizations. Those who live in countries having a gold standard are hardly aware of the influence and extent of their prejudice in favor of gold as gold. There is a feeling very deep and widespread, even in parts of the United States, that silver-using countries are, at best, semi-civilized. This feeling may be paralleled by the unreasonable preference for silver in the decade 1850–60,—a preference that caused several countries of Europe to demonetize gold, and others to agitate for its demonetization. That Japan, in establishing the gold standard, was powerfully actuated by this general prejudice of Western nations can hardly be doubted. The speeches of the advocates of the change, in Parliament and in the press, clearly express the feeling. Those who have studied the course of Japan during the past twenty years can appreciate the immense influence of

*The amount sold was 40,000,000 yen. Offers were, in fact, made for Japanese bonds by foreign capitalists in 1896, but not accepted.

arguments resting on it. Japan has been copying Western nations in almost every sphere of civilization,—industry, commerce, education, military affairs, legal institutions, and even art. She has kept pace with almost every important step of Western development. She is anxious to remove all the differences that serve to prejudice her in the eyes of the nations of Europe and America. Though Japan has reaped great advantages from the silver standard in the opinion of nearly all impartial observers in the East, yet she has a general wish to abolish that standard, simply because the trend of Western legislation has been in the direction of gold. This I believe to be the main explanation of her acceptance of the new monetary standard.

Lately it has been urged that still another ground existed for the abolition of the silver standard in Japan. The government, it is said, noticed that the depreciation of silver was injurious to the creditor classes, especially those whose incomes were derived from government bonds and other fixed obligations. What motives beyond those publicly stated actuated the government officials in charge of the bill no one can discover. None of the government delegates expressed any concern for the creditor class, nor did any supporters of the measure outside of the government mention the point. Governments are not commonly supposed to concern themselves much for those who make no complaint or to remedy wrongs unseen and unfelt. Thus far the creditor class has not raised its voice in opposition to the silver standard in Japan. Indeed, it is not probable that a single complaint has ever been made during the past ten years on this score. On the contrary, the general impression is that the creditor class in Japan has enjoyed during this period the advantages of a widespread prosperity. The farmers, who were in great straits after the resumption of specie payments in 1886 and 1887, have been able to meet their obligations with great

promptness in more recent years, owing to the better demand for agricultural products. Banks, railways, mines, shipping, and other forms of corporate wealth have all paid excellent dividends in the past decade. That the gold standard was adopted to save the creditor class from a depreciating currency must therefore be considered the after-thought of some one who did not follow the general trend of opinion in Japan during the period of currency legislation.

It still remains to consider the general measures of safety that the government proposed to take to insure the permanent success of the gold standard. Many people expressed fears at the time of the currency agitation that the government would find it difficult to establish the new system on a firm basis. The greatest danger lay in the uncertainty as to the effect the new legislation would have on the relative values of silver and gold. At this time (in the early part of 1897) the market ratio of gold to silver was less than 1.82; and, as Japan proposed to assume the ratio of 1.82½ in her new coinage, she could not, so long as the market ratio remained stable, expose herself to much risk. If, however, the price of silver fell, she encountered the hazard of having all the gold drawn out of her reserves in exchange for the silver yen and convertible notes in circulation. It was therefore necessary for the government to secure an adequate reserve to meet any possible drain.

The precise amount of silver yen in circulation is not known. Statistics are accurately kept of the amount coined in the mint at Osaka; but they tell little as to the quantity circulating in Japan, because the larger part of the one yen coins has been exported to China and other countries of the East. It is estimated that more than 112,000,000 yen of these pieces have been exported from Japan. The law provides that a period of over five years shall elapse in which to convert Japanese silver yen; and

this vast sum might constitute a grave danger to the new system if the value of silver fell sufficiently to make the exchange profitable. But this danger is reduced to a minimum on a closer scrutiny. A great many of the exported coins have found their way to China, where they are "chopped,"—i.e., disfigured; and the Japanese government refuses to accept chopped coins in exchange. Further, most of the silver coins circulating in Singapore and other parts of the Strait Settlements are preferred by the people in the ordinary course of trade to any other silver coin. It is believed, therefore, that, unless a very considerable difference exists between their bullion value and their legal value in Japan, they will not be re-exported to Japan for redemption. Out of a total of 112,000,000 one yen coins exported from Japan, not more than 10,000,000 yens, or possibly 15,000,000, are likely to find their way back, except under scarcely conceivable conditions.

Within the empire the amount in circulation is also somewhat uncertain, but not to the same extent as the amount abroad. The Nippon Ginko holds in reserve very nearly 19,000,000 yen, and the quantity in general circulation is probably not far from 32,000,000 yen. These two represent a sum of 51,000,000, to which must be added an additional 10,000,000 yen from other parts of the East, making a grand total of 61,000,000 yen. Of this total it is not likely that more than a small fraction will be converted into gold. It is the purpose of the government to coin all its subsidiary silver money out of the stock now on hand in the Nippon Ginko; further, to supply Formosa with silver coins, with a special mark upon them; and, finally, to add to the Corean circulation as far as possible with the silver yen. In all these ways the demand for the existing silver coins of Japan is likely to absorb a very large fraction of the supply.

It is true that a very large amount of paper currency circulates within the country, all of which, as it is con-

vertible into gold on demand, may be considered a menace to the gold reserves. The total amount of convertible notes issued by the Nippon Ginko and in circulation October 23, 1897, exceeded 190,000,000 yen,—an unusual aggregate for Japan and, indeed, in excess of the legal limit to the extent of 29,000,000 yen.* In demanding gold coins from the Nippon Ginko, whether at the main bank or at the branches, it is quite immaterial whether the silver yen or convertible notes are presented. The bank converts both indifferently. But the Japanese have for years discarded the use of metallic money except for subsidiary purposes. The coined yen piece is seldom found in the channels of trade, its place being occupied by the equivalent convertible notes, of which an immense number are found in circulation. The habits of a people do not readily change in the use of money, especially when economy and convenience are all in favor of the established order of things. If the Japanese people in the past few years have not made any demand on the silver reserves of the treasury in exchange for convertible notes, they will not, in all probability, desire to draw on the gold reserves. The notes of the Nippon Ginko, though convertible on demand, are generally preferred to metallic money, and circulate freely within the empire. For this reason it is practically certain that not a large number of them will be presented at the bank for conversion.

The measures taken by the government to insure a sufficient reserve of gold to meet any possible demands have been ample. Early in March the amount of gold coin and bullion † held by the Nippon Ginko was some-

* The bank is permitted to increase its issues beyond the legal limit by paying to the government a tax of 7 per cent. (formerly 5 per cent.) on the excess.

† The Nippon Ginko, though agreeing to pay its notes in silver until recently, has always kept a large amount of gold in its metallic reserves. This was probably held as a kind of war treasure, in imitation of European governments.

what above 36,000,000 yen. As soon as the new coinage law was promulgated, the government began to import gold, and by October 1 had accumulated 80,000,000 yen, of which over 40,000,000 have been coined. This entire sum has been drawn from the Chinese indemnity paid in London, and most of it lodged in the Nippon Ginko. With a gold reserve of over 100,000,000 yen, it is evident that the financial measures of the government to insure the success of the new standard have been adequate, and more than adequate. The whole process has been carried through with extraordinary ease and certainty. In business circles there has been heard scarcely a doubt as to the ability of the government to redeem its promises. A proof of this is the small demand made at the main bank and its branches for gold in exchange for silver yen and convertible notes. On October 1, when, according to the terms of the new act, the Nippon Ginko agreed to pay gold on demand, the amount called for was 942,665 yen in the whole of Japan. On October 2 this amount had declined to 68,580 yen. These figures do not show any formidable desire for gold. Probably the larger figure of the first day arose more from a feeling of curiosity to see a new coin than from any want of faith in the new standard. The total aggregate demand from October 1 to November 6 was:—

<i>Silver Yen.</i>	<i>Convertible Notes.</i>	<i>Total.</i>
1,505,521	3,680,745	5,186,266

The difficulties that Japan will encounter from the establishment of the new standard are not so much monetary as economic. The measures that the government has taken to secure the new standard against all possible contingencies have been too thorough to permit of failure. Nor has this part of the problem been very difficult. Japan has an abundant reserve in gold derived from the Chinese indemnity fund, and, besides, a thoroughly organized banking system, trusted by all classes and interests.

Under these circumstances it was hardly possible that the gold standard should not be successfully established. From another point of view the question is more difficult, and will take longer to decide. The industrial and commercial interests of Japan have so far prospered wonderfully under a standard common to all the countries of the extreme Orient. Now that the link that in a monetary sense bound her to these nations is broken, will she continue to hold the pre-eminence she has gained? Fortunately for Japan, her neighbors have, so far, not displayed the same aptitude for mechanical progress that she has shown. They have not the keen ambition and organizing ability of the Japanese. If, in spite of her advantages, natural and acquired, Japan does not obtain the same measure of prosperity in the future that she has won in the past; if her people find it impossible to retain the markets of the East in the face of other competitors; if they experience depression and disaster where they expected reasonable success,— we may fairly conclude that the gold standard has in it an inherent defect. To test it, the lapse of time is necessary. It will be far easier for Japan to submit to a general reduction of prices than for the countries of Europe or America, simply because, so far, she has been free from any tendency of this kind. At the end of a period of twenty years she has a unit of value of only one-half the weight that she had at the beginning of this period. Whether this depreciation of weight has proceeded hand in hand with the increase of general prices, or whether the unit of value has preserved its purchasing power during this period, is not now the question. In any case, Japan can hold her own against foreigner competitors better than those who, from whatever cause, have already experienced a fall of prices.

From this point of view, whether Japan will gain or lose ultimately will depend to a certain extent on the relation of silver and gold to each other. At no time has

the gold value of silver fallen so low as since the demonetization legislation of Japan. If it is true that the supply of gold is not sufficient for the demand,—a demand almost coextensive with the commercial world (omitting China and Mexico),—then it is probable that a wider divergence of value between the two metals will soon make its appearance. Silver, in terms of gold, will under these circumstances still further depreciate. Situated as Japan is, in the neighborhood of silver-using countries, this divergence can hardly fail to do harm to her industrial interests. She will experience more and more difficulty in retaining her trade with them, especially in commodities which she produces in competition with other countries. If, on the contrary, silver does not depreciate further in terms of gold, Japan will be practically in the same situation *vis-à-vis* silver countries as before the gold standard was established. The whole experiment can hardly fail to be a useful lesson to the world.

GARRETT DROPPERS.

TOKYO, JAPAN.

THE COAL MINERS' STRIKE OF 1897.

THE great coal miners' strike of 1897 in the bituminous districts of the United States began on July 4, and extended through all or the greater parts of the States of Pennsylvania, West Virginia, Ohio, Indiana, and Illinois. The mines of these States yield over 70 per cent. of the country's total product of bituminous coal, and employ nearly 70 per cent. of the total number of employees engaged in bituminous mines.*

The causes which led up to the strike were various; but at bottom it was due to one,—the constant reduction in wages through several years, which had brought the miners and their families to the verge of starvation. The object of the strike, aside from protests against local grievances, was to advance wages so that "at least the necessities of life might be procured."†

At the annual convention of the United Mine Workers, held in Columbus, Ohio, January 12–16, 1897, after a careful discussion of the deplorable conditions prevailing in the various mining districts, it was agreed that the scale of prices paid for mining should be advanced to the following rates: ‡—

Pennsylvania, Pittsburg district	60	cents per ton
Ohio	60	" " "
Indiana (bituminous mines)	60	" " "
Southern Illinois	55	" " "
Northern Illinois, the same as in 1894, average about	80 $\frac{1}{2}$	" " "

These were to be the prices for pick (hand) mining. Machine mining was to be paid three-fifths the price paid per ton for pick mining in the respective districts, except in Indiana, where the price was to be four-fifths. The time of

* See *Mineral Resources of the United States: Coal* (1896), pp. 19, 31; Part V. of the Eighteenth Annual Report of the United States Geological Survey.

† See *United Mine Workers' Journal*, July 8, 1897. This is the official organ of the United Mine Workers of America.

‡ *Mine Workers' Journal*, July 1, 1897.

the inauguration of a strike to enforce these demands was left to the discretion of the National Executive Board and district presidents of the United Mine Workers, who were instructed at the national convention to meet later in Columbus, Ohio, and decide when, in their judgment, the time had become opportune. Accordingly, these representatives of the miners met in Columbus, June 24-26, and set July 4 as the day on which work should be suspended. It was maintained that the time for the struggle was opportune, because business was reviving, and there was an apparent upward tendency in the prices of all commodities; the miner could and should secure a share of the gains from improving conditions.*

To understand what the advanced scale of prices demanded by the miners meant, it is necessary to know what the prices paid for mining were before the strike, and what the annual earnings and the condition of the miners really were. In the great mining district of Western Pennsylvania, commonly known as the Pittsburg district, which produces 50,000,000 tons of bituminous coal annually and employs over 70,000 men and boys,† the price paid for mining in 1893 was, for thin vein, 79 cents per ton; and, for thick vein, 65 cents per ton. In 1897 the price paid was, for thin vein, 47 to 54 cents per ton; for thick vein, 28 to 30 cents per ton.‡ The reduction in four years was over 40 per cent.

The condition of the miners and their families in this district was wretched. A large majority of the men employed are foreigners, who can neither speak nor understand the English language, and whose standard of living is far below that of the English or American workman. In his testimony before a special committee,§ appointed by the legislature of Pennsyl-

* *Mine Workers' Journal*, July 1, 1897.

† *Mineral Resources* (1896), pp. 17, 19.

‡ Mr. M. D. Ratchford, president of the United Mine Workers of America, in the *Mine Workers' Journal*, July 29, 1897, p. 1. See also an address by Mr. John McBride, printed in the *Proceedings of the Sixth Annual Convention of the United Mine Workers of America*, held at Columbus, Ohio, February 12-18, 1896, pp. 2-6.

§ This committee consisted of five members, three from the House of Representatives, appointed by the Speaker; and two from the Senate, appointed by the President *pro tempore*. See *Legislative Record* of Pennsylvania, No. 306, p. 285, June 7, 1897.

vania early in the present year, to investigate the condition of the miners of the Pittsburg district, President Ratchford said that in three places in that district—Eureka, Smithton, and Banning—80 per cent. of the miners had no knowledge of our language. They live, he says, "like sheep in the shambles."* And the committee in its report to the legislature says: "60 per centum and more of the miners in the district have been drawn from the lowest ranks of the laboring classes of the Old World; and they came here without any knowledge whatever of our government, its institutions, or its people. . . . Your committee found the homes or abodes of the miners at many of the mines in a very filthy and untenable condition, the miners being herded together like cattle and in many places wallowing in their own filth, breeding disease, and affecting not only their own health, but that of the community in which they live. . . . The small percentage of American and English-speaking laborers who find employment in the mines, as a general rule, are an intelligent, industrious, and frugal class." According to figures given by the committee, the average gross earnings of the miners in this district at the time of the investigation (April and May) were not over \$3.50 to \$4 per man per week. These conditions were made worse by the fact that the miners were compelled to deal in "company stores," where excessive prices were charged, and to live in company houses at excessive rents. The testimony given before the committee showed that houses costing \$50 were let to the miners at \$2 or \$2.50 per month, houses costing from \$200 to \$400 were let at from \$5 to \$7 per month. Thus it became extremely difficult for the miner to make a living, and the constant tendency was to keep him in debt. "The condition of the miner generally," says the committee, "is bad, is one of chronic debt, complaint, and poverty, and one that enables his employer, in most cases, to keep him in such condition."†

What was true of Pennsylvania was true, as to wages, of Ohio, Indiana, and Illinois; and it was largely true in respect to the character of the population, especially in Illinois. In Ohio and Indiana in the last four years preceding the strike

* *Mine Workers' Journal*, March 6, 1897. † *Legislative Record*, pp. 2335, 2336.

the price per ton for mining fell from 70 and 75 cents respectively to 51 cents in both States, with a still further reduction contemplated in Ohio to 45 cents per ton.* In the great Hocking Valley district in Ohio, which produces over one-third of the coal produced in the State, during a period of eight months, from October 1, 1896, to June 1, 1897, the total average gross earnings in one of the largest mines were \$60 per man, or \$7.50 per man per month. From these earnings must be deducted the cost of mine supplies, such as tool-sharpening and power; and only the remainder is left to the miner for house rent, coal, and food, not to mention any comforts. At another mine in the same district, according to President Ratchford, as shown by the written statement of the coal company (for which, however, no dates are given), the aggregate gross earnings of thirty-nine men for two weeks' labor were \$223.98, or an average of \$2.87 per man per week.† These figures, no doubt, do not represent the general range of earnings for the State, which would be somewhat higher; yet they serve to show the extremes reached in some of the worst places. According to Mr. R. M. Haseltine, chief inspector of mines in Ohio, the average gross earnings per man for 1895 were \$221.95, or \$18.48 per month per man.‡ The average gross earnings per man for 1896 were \$221.55, or \$18.46 per man per month.§ But the figures for 1896, it should be said, represent the average for 1,425 less men than were engaged in pick mining in 1895, there being a proportionate increase in the number of machine miners. These averages tell their own story. Further reductions were made in the price of mining in 1897 from that which had been obtained in 1896, and the miners and their families must have been reduced to a condition of great destitution.

Practically the same conditions prevailed in Illinois. In that State the production of coal increased, in the three years following 1894, from 17,118,090 tons to 19,786,000 tons. The increase in 1896 over 1895 was over 2,000,000 tons. But

* President Ratchford in *Mines Workers' Journal*, July 22, 1897.

† *Ibid.*

‡ *Twenty-first Annual Report* (1895), p. 25. These figures are for pick mining. The annual earnings for machine mining are somewhat higher.

§ *Twenty-second Annual Report* (1896).

this increase in tonnage was accompanied by a corresponding decrease in the selling price of coal; and, moreover, the year 1895 presented the anomaly that the wages of the miners fell even more rapidly than the market price of coal. The Illinois Bureau of Labor Statistics, after noting the increase of tonnage and the fall in prices in that year, makes the following comment: "Upon whom this loss fell is shown by the fact that, while the operatives received an average of 7.76 cents less per ton for the coal, the miners were paid an average of 9.81 cents less per ton for mining it."* Mr. Ryan, State secretary-treasurer of the United Mine Workers, estimated the actual earnings of each miner per month at about \$12.† For Northern Illinois, and for the period immediately preceding the strike, this figure states the simple truth. During the past summer I made a personal investigation, from the books, of the earnings of miners in the employment of one of the oldest coal companies in the northern part of the State. I found that for five months before the strike the average gross earnings of 229 miners were \$12.95 per man per month. The average earnings for the State as a whole would probably be somewhat greater. In 1896 the average gross earnings for the year were \$318.65 per man, or about \$26.50 per man per month.‡ But during the six months of 1897 immediately preceding the strike there were great reductions in the price paid for mining throughout the State, while the average number of days worked per week was considerably less than in 1896. These two changes, taken together, would greatly reduce the

* *Fifteenth Annual Report: Coal*, p. 21.

† In an open letter to United States Senator Mason of Illinois, Mr. Ryan said (I quote from the original manuscript letter): "We have been forced to accept reduction after reduction in the price of mining, until the price now paid is so low that miners cannot earn more than an average of 75 cents per day, while the mines do not run more than half-time. But let us suppose the average wage to be \$1 per day. At three days per week, the miner's wages would amount to about \$12 per month, which is certainly not less than a fair average. For a family of five, which is a fair average number of a miner's family, we find that the good housewife must for \$12 provide 450 meals in a month, or, in other words, she has the magnificent sum of 2.66 cents to spend on each meal for each member of her family. This is not taking into account the fact that people in mining communities wear clothes, pay house rent and doctors' bills, not to mention many other items of expense."

‡ *Fifteenth Annual Report Bureau of Labor Statistics: Coal in Illinois* (1896), p. 21.

general average of wages earned in the months of 1897 before the strike, though probably not to a point quite so low as is indicated by the figures just given for Northern Illinois.

The nationality and standard of living of a large portion of the miners of Illinois are much the same as in Pennsylvania, though the non-English speaking element is not quite so large as in the latter State. Out of 266 names of miners taken at random from the pay-roll of the company already referred to, I found 123 to be English, while 143 were non-English, chiefly Bohemians, Poles, and Italians. What is true of Northern Illinois is fast becoming true, I was told by the officials of the miners, throughout the other mining districts of the State. More and more the English-speaking miner must face the alternative of leaving the field or suffering himself to be dragged down to a much lower standard of living than that to which he has been accustomed.*

Enough has been said to show what were the conditions of the miners in these districts previous to the strike. No one at all familiar with those conditions will deny that the miners' earnings had been reduced below the living point. Everywhere poverty and degradation were manifest. When the last extreme was reached, and men were unable to provide themselves and their families with the barest necessities, they made common cause, and resolved that, if starve they must, they would starve in attempting to improve their condition. President Ratchford, of the United Mine Workers, in a statement to the public concerning the causes which brought on the strike, thus put their case: "This movement is nothing less than a spontaneous uprising of an enslaved people, who have determined to submit no longer to the cruel, heartless, and inhuman conditions imposed upon them by unscrupulous employers, and which have reduced the miners and those depending on them to actual starvation." But he adds: "It should be said, in justice to a large majority of employers, that they are not responsible for these conditions. They are due to the actions of a few who have cut prices far below the demands of

* For an excellent brief account of the changes that have taken place in the character of the mining population of the United States see pp. 459-463 of an article by Mr. J. E. Williams in *Carter's Monthly* (Chicago) for November, 1897. See also the *New York Evening Post* for July 20, 1897, p. 7.

the market, thus demoralizing the trade and cutting wages indiscriminately, until the point is reached where men can no longer live by their thrift and industry."* To what extent the conditions described are due to the causes referred to in this last statement we shall now consider.

For several years past the market price of bituminous coal has been declining, and since 1893 the decline has been very rapid. This has been due largely, no doubt, to the great business depression which set in at that time, and from which we have not yet recovered; but it is probably due also to the fact that since 1894 there has been a considerable and continued increase in the amount of bituminous coal put upon the market. In 1896 there was a total increase in the United States of 2,522,000 tons over the amount produced in 1895. At the same time there was a decrease of \$888,256 in the value of the total product, the average price per ton having fallen from 86 to 83 cents. In the States involved in the recent strike the fluctuations in the average prices per ton paid for coal at the mine during six years have been as follows:†—

	1891.	1892.	1893.	1894.	1895.	1896.	Per Cent. of Decrease from 1891 to 1896.
Illinois . . .	\$0.91	\$0.91	\$0.89	\$0.89	\$0.80	\$0.80	11+
Indiana . . .	1.03	1.08	1.07	.96	.91	.84	18+
Ohio . . .	.94	.94	.92	.83	.79	.79	16—
Pennsylvania	.87	.84	.80	.74	.72	.71	18+
West Virginia	.80	.80	.77	.75	.68	.65	28—

For the recent strike the figures of production and price are highly significant. They show a steady decline in the selling price of bituminous coal. A fall even greater occurred in some of the newer coal fields, such as those of Alabama and Georgia. Thus in Alabama the price declined 37 per cent. from 1886 to 1896; while in Georgia, in half that time, 1891-96, there was the extraordinary decline of 53 per cent.‡ Of the five States involved in the strike, Pennsylvania, Ohio, and

* *United Mine Workers' Journal*, July 22, 1897, p. 1.

† *Mineral Resources: Coal* (1896), p. 28.

These prices include the profits of the mine operator, but do not include charges for transportation.

‡ *Ibid.*, pp. 32, 33.

Indiana show a decrease in production in 1896, while West Virginia and Illinois show a great increase. In Pennsylvania the decrease was a little less than 700,000 tons. In Ohio it was 480,000 tons. On the other hand, the increase in West Virginia for the same year was about 1,500,000 tons, while that of Illinois was about 2,000,000 tons.* These figures are important in considering the strike of the past summer. The coal fields of West Virginia have been greatly developed in the last few years. In 1886 West Virginia produced only half as much coal as Ohio. In 1893 her product was more than 66 per cent. of that in Ohio; and in 1896 it was greater.† The product of West Virginia during these years has been coming into closer and closer competition both with Pennsylvania and Ohio coals. The grade of labor in the mines of West Virginia is the cheapest, a large proportion of the miners being negroes, who are content with the most meagre wages. It is said that in many parts of West Virginia a white miner takes a number of places in a mine under contract to bring out the coal at a certain stipulated price per ton, and then hires negroes to mine the coal at a mere pittance per day.‡ Whether or no as a result of this practice, which has in it all the evils of the "sweating system," the average cost of coal per ton in that State has been less than in any of the other four States engaged in the strike. In 1894 an organization was formed by the operators along the New and Kanawha Rivers, in Fayette and Kanawha Counties, under the name of the Kanawha and New River Coal and Coke Company, for the purpose of extending the market for the coals of this region, particularly in the West.§ In this they have undoubtedly been successful. It may also be noted here that in West Virginia the strike leaders had the greatest difficulty in enlisting the miners in their ranks.

In Illinois the great increase in production has been in the central and southern parts of the State. There the veins are thicker, and in many places mining machines have been introduced with great success. In St. Clair County machines

* *Mineral Resources: Coal* (1896), p. 28.

† *Ibid.*, pp. 22, 25, 27, 28.

‡ See article by R. Askew, secretary of the Northern Mineral Mine Workers, in *Mine Workers' Journal*, September 28, 1897.

§ *Mineral Resources* (1894), p. 203.

are used almost exclusively, with the result that in some of the mines coal was extracted in 1896 at as low a cost as 25 cents per ton, or even lower.* In former years these mines found their market principally in the South and West. But for some years past their product has been coming into the Chicago market in direct competition with the product of mines from the northern part of the State. It is no uncommon thing to see whole train-loads of this coal passing directly through the Northern coal fields to the Chicago market. Add this competition from Southern Illinois and West Virginia to the competition already existing for some years in Pennsylvania, Ohio, and Indiana, and we have the inevitable result of cut-throat competition everywhere.

For years, coal mines in none of these States have been running steadily. Further, nearly everywhere there are more miners than there are places for them; and the competition for work has become keen among the workmen themselves. The Pennsylvania Legislative Committee, in its report on the Pittsburg district, says: "The undisputed testimony reveals the fact that 50 per cent. of the mines in the district, running to their full capacity, will at any time supply the demand of the market in which they find sale for their product. . . . It is also a patent fact that there are at least two miners engaged in the mining districts for every one man's work." A prominent operator in Northern Illinois makes a statement even stronger. He says: "There are twice or three times as many mines open in the several coal-producing States as are required to fill the natural demand for coal. There are employed in these mines about double the number of men that are required to produce the coal consumed."† These statements in regard to the excess of mines and miners may seem exaggerated. Yet, in the main, they are true; and it is undisputed that for some years before the business depression set in, as well as afterwards, mines have not been running more than half to three-quarter time.‡

* Letter to the present writer from State Inspector Thomas Cumming, dated December 6, 1896.

† From a letter to the present writer, dated November 29, 1897.

‡ The *Black Diamond*, the official organ of dealers in bituminous coal in the Middle West, under date of March 27, 1897, says: "Evidence is accumulating

But, aside from the honest though frantic competition resulting from the conditions just described, a number of operators resorted to dishonest methods, by which they were enabled to sell coal at lower rates than their honest competitors. Many such, especially in Pennsylvania, kept "company stores" in connection with their mines, at which the miners were forced to buy at exorbitant prices. Not infrequently a greater number were employed, generally men with families, than were really needed to run the mines, in order to increase the sales of the company stores. This practice alone gave the dishonest operator an advantage of from 5 to 15 cents a ton, and, it is maintained, even as much as 20 cents, over the honest operator, who paid his men cash and allowed them to buy where they pleased.* Some used false weights, some too large screens. In most of the mines in the Pittsburg district the screen over which the coal must pass before it is weighed is known as an inch and a half screen. It is usually five feet in width by twelve feet in length, and is composed of flat iron

each week that there must be either a decrease in the number of mines operated in the West, or miners must accept lower wages. The operators who have their capital invested in productive property are not likely to go out of business, and allow their mines to remain idle. On the other hand, miners have the choice of adopting some other calling to make a living or accepting less pay for their work. The introduction of mining machinery and the greatly increased number of mines, together with the fierce competition, are responsible for the present situation in the West. Production of coal is far in advance of the natural consumptive growth, and primarily is the cause of the conditions which now exist in the soft coal trade." See also *Mineral Resources: Coal* (1894), p. 23.

*See *Legislative Record*, No. 306, June 7, 1897, p. 2386. The Pennsylvania Legislative Committee, already referred to, maintains that the advantage gained from this dishonest use of the company store amounted to "at least 20 cents per ton." But this is probably an extreme statement. In the year 1893-94, when the abolition of the company store system was discussed in Pennsylvania, it was agreed by miners and operators that there should be a differential of 5 cents less in the price paid per ton for mining where the company store should be abolished or where it did not exist. When it was found that this did not check the evil, the differential was increased to 20 cents per ton, with the result that for a while company stores disappeared. Later those operators in whose favor the differential had been made advanced the price paid for mining to the regular rates which had previously obtained in the Pittsburg district, with the exception of the New York and Cleveland Gas Coal Company. This company refused to raise the price to that paid by other companies, the difference being from 5 to 10 cents, and later as much as 16 cents per ton. 16 cents per ton would probably represent the greatest advantage obtained from the abuse of the company store system, and the average was probably considerably less. See President Ratchford's testimony before the Pennsylvania Legislative Committee, in *Mine Workers' Journal*, May 6, 1897. See the *Journal* also for September 10, 1897.

bars an inch and a half in width, with a space of an inch and a half between them. Even with a screen of this kind, much coal passes through for which the miner receives nothing, but which the operator sells. But, when screens contain more than sixty superficial square feet, with diamond instead of flat bars and with spaces averaging two inches and a half instead of an inch and a half, a much larger amount of coal must pass through. A number of such screens were found at mines in the Pittsburg district.* Whether the evils described prevailed to as great an extent elsewhere as in the Pittsburg district matters but little. To-day the coal market is practically one for all the States under consideration; and this, especially under the present conditions of the coal trade, makes it possible for the most unscrupulous operator to drag others to his own level or force them out of business.

From all these causes—increasing production in face of slack demand, and dishonest competition by unscrupulous operators—there was general complaint of lack of profit for the capital engaged in mining. Mr. W. P. De Armitt, of the New York and Cleveland Gas Coal Company, whose mines are in the Pittsburg district, testified before the Pennsylvania Legislative Committee that his company in 1896, on an investment of \$1,000,000, made only \$8,000 profit, or less than 1 per cent.; this, too, when the company had been mining coal at several cents less per ton than competitive companies in the same district. "The companies, in their anxiety to place their tonnage," writes a prominent operator in Northern Illinois, "have forced the market, making big reductions in price with little or no profit. It is safe to say that the companies are few and far between who have succeeded in paying a dividend to their stockholders the past two or three years." † Under such conditions, many operators, as well as the miners themselves, welcomed the strike as the only means of relief.

For some eight years, from 1886 to the general coal strike of 1894, there had been a system of interstate agreement, in

* *Legislative Record*, as above (p. 196). See also *Mine Workers' Journal*, April 29, 1897.

† From a letter to the present writer, dated November 29, 1897. On the day before the strike began (July 3, 1897) the *Black Diamond* said: "Many oper-

which both miners and operators had taken part. Representatives of both, from Pennsylvania, Ohio, Indiana, and Illinois, met in convention annually, and adopted jointly a scale of prices for the ensuing year. By maintaining a differential in prices paid for mining in the various competitive fields, it was thought that approximately uniform rates of wages and profits would result. This, by giving all an equal chance in the general market, would prevent one operator from taking undue advantage of his competitors.* The system was first urged by the miners in 1885. On September 12 of that year the executive board of the National Federation of Miners and Mine Laborers, in session at Indianapolis, issued an address to mine operators of the United States to meet them "for the purpose of adjusting the market and mining prices in such a way as to avoid strikes and lockouts, and to give to each party an increased profit from the sale of coal."† The result was a convention in Chicago, October 15, 1885, at which both operators and miners were represented. A joint committee of miners and operators was appointed "to invite the co-operation of all engaged in coal mining in America, and to call a meeting of operators and miners in joint convention at Pittsburg on the 15th of December, 1885." In response to this call, representatives of operators and miners met in Pittsburg at the appointed time; and a scale of prices for mining was drafted for Pennsylvania, Ohio, Indiana, and Illinois. This scale was afterwards approved by the First Annual Joint Conference of Miners and Operators at Columbus, Ohio, in February, 1886, and was known as the Pittsburg Scale. The scale was revised at the second annual joint conference, also held at Columbus in 1887; and again at the third annual joint confer-

utors would cheerfully welcome a general strike, as it would clean up stocks, and might have the effect of establishing a sensible and practical differential in the four principal mining States of the Middle West, thus enabling all miners to make fair living wages."

* See, for example, the official report of the *Proceedings of the Third Annual Joint Convention of Miners and Operators*, held at Pittsburg, February 7-9, 1888, especially pp. 57-81.

† For a history of these agreements see the report on the coal miners' strike and lock-out in Northern Illinois, by Messrs. J. M. Gould and F. H. Wines, special commissioners appointed by the governor in August, 1889, quoted in Mr. Henry D. Lloyd's *A Strike of Millionaires against Miners*, p. 202.

ence, held at Pittsburg in 1888. Peace was maintained during these three years between the operators and miners represented at the conventions. From the beginning, however, the operators in Southern Illinois refused to enter the organization. In 1888 those of Northern Illinois withdrew, and in 1889 the Indiana operators withdrew. The withdrawal of the Illinois and Indiana operators, and the fact that the Grape Creek Coal Company (Illinois), after agreeing to pay the scale adopted for 1889, refused to do so, greatly weakened the system. Besides the strike at Grape Creek, which lasted two years, and ended with the defeat of the miners, there were also strikes and lockouts in Northern Illinois, with some minor difficulties between miners and operators in Ohio.* But there was no general strike over all the States for eight years after the interstate system was established.

In 1893, when the business depression came, what was left of the system of joint action disappeared altogether, a number of operators maintaining that they could no longer abide by it. The miners did all in their power to continue these agreements, in order to avert a strike.† It was foreseen early in 1894 that a reduction of wages would be asked for by the operators, and the miners made a last attempt to adjust differences amicably by calling a convention of miners and operators from the various States, to be held in Columbus in January. But the attendance at this convention on the part of the operators was too small to accomplish anything.‡ The result was that at a national convention of the United Mine Workers of America, held in Columbus, April 10, it was decided that a general suspension of work should take place, beginning April 21, the object being to enforce by this means a demand for a restoration of mining prices to those of 1893.§ The struggle was one of the most bitter in the coal mining industry up to that time. While the operators refused to attend a national convention for the purpose of settling differ-

* See *Proceedings of Eighth Annual Convention of the Ohio Miners' Amalgamated Association*, pp. 4, 5.

† *Mine Workers' Journal*, September 2, 1897.

‡ *Thirteenth Annual Report of Illinois Bureau of Labor Statistics: Coal*, p. 6.

§ *Mineral Resources: Coal* (1894), p. 22.

ences, they generally expressed a willingness to meet the miners in their respective districts for that purpose. This was finally acceded to by the miners; and, after a struggle of three months, a compromise was effected, with but little gain for the miners.*

For the next two years the miners had to treat with the operators of the various districts separately, with the result that the field where the natural advantages were greatest and the unions of the miners weakest fixed the price of mining for all. At the beginning of 1897 the last straw was put on the camel's back. Operators in some of the States, especially in the Pittsburg district and in Northern Illinois, who in a measure had been accustomed to meet their miners for local adjustments of prices, refused longer to continue even these relations. Repeated attempts were made on the part of the miners, but without avail. In the Pittsburg district, conference after conference was called for adjusting the price for mining; but to these conferences a large majority of the operators paid no attention. Not until every attempt at a peaceful adjustment had failed was the strike of 1897 determined upon. When once it was begun, its object was to secure not merely local agreements, but an interstate agreement for uniform scales of prices, such as had obtained from 1886 to 1894.

How far the strike of 1897 accomplished this we shall now see. In response to the order to strike, issued by the executive board of the United Mine Workers at the beginning of July, work ceased in most of the mines of Pennsylvania, Ohio, Indiana, and Illinois. The notable exceptions were the mines in Southern Illinois and those of one company, presently to be mentioned, in the Pittsburg district. West Virginia fell into line later, but only after the most strenuous efforts on the part of the strike leaders. It was attempted, also, to carry the strike into Alabama, Georgia, Tennessee, Kentucky, and Iowa; but these States responded but feebly, and at no time were of much importance in the strike, except in so far as they furnished coal for the markets of the striking States. The

* See *Proceedings of the Sixth Annual Convention of the United Mine Workers of America* (1896), p. 5; cp. *Mineral Resources: Coal* (1896), p. 77.

avowed purpose of the strike leaders was, if possible, to suspend work in all places where bituminous coal was mined, and so to create a coal famine, which would raise the price of coal, and enable the operators to pay higher wages. One of the striking features of the whole struggle was that from the outset the miners had the sympathy of a large number of operators, and of the press and the general public. The *Black Diamond*, the newspaper of the operators, expressed this feeling strongly; and equally strong expressions came from other representatives of the employers.*

At the end of the first week of the strike, things had taken upon themselves definite shape; and the strike leaders, with headquarters at Columbus, Ohio, were able to count their forces and define more clearly the battle before them. It was estimated that about 150,000 men had laid down their tools. That this large number ceased work so soon after the order to strike was given is remarkable, when it is considered that less than 5 per cent. of the miners were members of unions.† Their action shows the conditions to have been such that but little inducement was needed to bring the men out. Those failing to respond were the miners of West Virginia, the miners of the New York and Cleveland Gas Coal Company in the Pittsburg district, and a considerable number in Southern Illinois. In these districts the miners' unions were weakest. In West Virginia and Southern Illinois there was but little organization among the men. The miners of the New York and Cleveland Gas Coal Company were tied hand and foot by an "iron-clad" contract. They had been compelled, Novem-

*The *Black Diamond* said on August 28: "Coal is too cheap . . . where the price obtained is not sufficient to pay a living price for the labor employed in its production. . . . Through sharp competition, commodities are brought down, down, down, wages following the descending scale, until, out of sheer misery, and not from any innate captiousness, revolt in the shape of a strike comes." And again, on July 17: "The fact that the strikers now have the entire sympathy of the public, and the moral, if tacit, support of the operators as a whole, should go far to pave the way to an early adjustment and basis for an equitable mining scale for the miners in the several States concerned."

† Mr. W. C. Pearce, secretary-treasurer of the United Mine Workers, informed the present writer in a letter of December 9, 1897, that, "when the recent strike began, we had less than 10,000 members in good standing in our organization." According to *Mineral Resources* (1896), p. 31, the total number of men employed in bituminous mines in the United States in 1896 was 244,171.

ber 1, 1896, to sign a contract for one year which prohibited their belonging to any union, or from leaving the employment of the company without giving "satisfactory" reasons, under penalty of forfeiting all moneys due them at the time for mining coal.* The contract also stipulated that the price to be paid for mining should be 10 cents per ton less than any other price paid in the Pittsburg district. But, if in the other mines of the district a strike should occur for an increase in wages, then the price paid by this company should be increased 10 cents per ton during such strike. The evident purpose was to prevent the miners from striking under any circumstances whatever. When, later, they dared to attend meetings held by strike leaders, not being able to give "satisfactory" excuses for their conduct, they were forced to forfeit the money due them for coal mined.†

It soon became apparent that the great battles of the strike must be fought in West Virginia and with the New York and

* The form of contract is printed in *United Mine Workers' Journal*, September 16, 1897.

The New York and Cleveland Gas Coal Company operates three mines, and employs about 1,200 men. For some years past it has resorted to extraordinary methods in order to hold its men in subjection. A trustworthy informant says that a few years ago, before a miner could obtain employment at its mines, he had to allow the company to build him a house, and allow a certain amount with interest to be deducted regularly from his earnings to pay for it. Then the company would present its "iron-clad" contract to be signed, with its several prohibitions in regard to strikes and miners' unions. If the miner signed it, he was bound hand and foot for a year. If he would not sign it, but preferred to work elsewhere, he could do so at the expense of letting his house stand vacant, since the company would not engage any one who rented it, and none but a miner would wish to rent it. The same informant says that these contracts are presented to each of the three sets of miners in the three mines in turn. If the first set refused to sign, those in the other two mines are kept working until the first submit. In the same way the others are compelled to submit. The miners are mainly Italians, Bohemians, and Slavs, with a few Germans and French.

† So stated in a personal letter from a leading official of the miners in the Pittsburg district. At the close of the strike the company offered to pay all moneys forfeited to those who would return to work, besides offering in some cases to pay a dollar a day for each day the miners were on strike. A large number returned to work on these conditions. Many of the men succeeded in finding work elsewhere, where union prices are now being paid. In December, 1897, about 400 men were still on strike, being supported by contributions from other miners in the State who are at work. A number of those who did not return to work have entered suits against the company to recover their wages.

The explanation of the inducements offered the men to return to work is that the price paid for mining in these mines remained (December, 1897) 11 cents below that paid elsewhere in the district.

Cleveland Gas Coal Company. With these mines supplying the market, the fight elsewhere would be useless. Accordingly, organizers were sent into those fields to persuade the miners still working to make common cause with the strikers. In the Pittsburg district, large numbers of men were soon marching to the vicinity of the mines of the Gas Coal Company, where they formed several camps, christened "Camp Determination," "Camp Despair," "Camp Desolation," and the like. Here mass meetings were held, and the miners still working were importuned in every possible way to join the ranks of the strikers. This was at the beginning of August. By August 5 their efforts were successful, and nearly all the 1,200 miners quit work.* Attempts were made later to operate the mines with other laborers, but with little success. The camps remained for some time longer, keeping up a vigilant watch lest the miners should be persuaded to return to work. To meet this move, the company secured an injunction against the officers of the United Mine Workers, on the ground that through them its property was endangered by the gathering of large crowds in the vicinity of the mines. This injunction had no immediate effect; but later the camps were broken up, and the strikers forced to disperse.† Great precautions were taken by the strikers against any outbreak. In some instances the strike leaders were arrested, but at once gave bail, and were free again. Governor Hasting, of Pennsylvania, fearing riot, had the militia in constant readiness. But nothing serious happened: no blood was shed, and no lives were lost.‡

On July 27 an important conference was held at Wheeling, West Virginia. By request of President Ratchford, of the

* *Chicago Record*, August 5, 1897.

† For the text of the injunction see *United Mine Workers' Journal*, September 16, 1897.

‡ The fatal conflict between Sheriff Martin and striking miners near Hazelton, Pennsylvania, September 10, 1897, in which twenty miners were killed and several wounded, had nothing whatever to do with the strike in the bituminous coal fields. It was connected with an independent strike of anthracite coal miners in the Hazelton district. The *Black Diamond* of September 18 (when a settlement had been reached) speaks of the strike in the bituminous fields as one "not the least notable feature of which was the marked absence of riot and bloodshed."

United Mine Workers, President Gompers, of the American Federation of Labor, issued a call to the various national trade unions of the country to send representatives to Wheeling to discuss ways and means of assisting the miners in their struggle.* About thirty representatives of nearly as many different trades responded. The result of the conference was that a large number of organizers was sent into the various mining districts of the State to urge the miners to quit work. Very soon, however, attempts were made to restrain these organizers, by injunctions from the courts, from holding meetings in the vicinity of mines. An injunction by Judge Mason, of the Marion County Circuit Court, was issued the day before the Wheeling Conference, the persons restrained being E. V. Debs, Ratchford, and about thirty others.† Nevertheless, these men continued for some time to hold meetings. Later, August 17, Judge Jackson issued another injunction against these same organizers, a violation of which brought about the arrest of about two hundred miners and organizers. Twenty-seven of the leaders were placed in jail, while the others were given their liberty. At this juncture an appeal was made to the governor of the State, demanding the constitutional right of public assembly and free speech. On August 3 Governor Atkinson sent a reply to the committee that had waited on him, in which he said, "So long as the workingmen of this State conduct their cause in a lawful and peaceful manner, it will be my duty, as it will be my pleasure, to protect them; but, if they should, in an ill-advised hour, violate the law by interfering with the rights or property of others, it will be my sworn duty to repress energetically and speedily all lawlessness."‡ Whether or no as the result of this explicit statement, we hear thenceforth but little of injunctions and arrests. It is also due the miners to say that their leaders and officers, from the beginning to the close of the strike, both in public speeches and by bulletins and circulars sent out to the men at various times, urged the men to be law-abiding and peaceable.

* See *United Mine Workers' Journal*, July 29, 1897; and the *Chicago Journal*, July 20, 1897.

† *United Mine Workers' Journal*, August 5, 1897.

‡ See *American Federationist*, September, 1897, pp. 154, 155.

Early in the strike there had been some attempts on the part of a few operators to formulate a scheme of what they called "true uniformity." Nothing, however, was accomplished until July 1. At that time a conference was held in Pittsburg, composed of a number of operators from the Pittsburg district and of the Labor Commissioners from Ohio, Indiana, and Illinois. At that conference a "uniformity" scheme was formulated. It provided for cash payments and the abolition of company stores; 2,000 pounds to the ton, and miners to be credited with the full amount of coal contained in the pit-car or wagon; check-weighman at the tipple; semi-monthly payments; uniform prices for pick mining in the thin and thick vein districts, and screens not exceeding one-half inch in aperture. A penalty for violations was provided of 10 cents per ton on the total amount of coal mined, to be paid to the other operators in proportion to the total amount of coal produced by them during the year. At conferences called to settle disputes between operators and miners no miners were to act as representatives unless they worked in the mines of subscribers to the agreement. But the agreement was not to become effective unless signed by 95 per cent. of the operators on or before January 1, 1898. The operators further wished it to be distinctly understood that this agreement had nothing to do whatever with the strike of the summer.* The plan, it should be noted, differed essentially from that of interstate agreement, which had existed from 1886 to 1894, in that it applied only to the Pittsburg district. Whether this attempt on the part of the Pittsburg operators to bring about uniform prices and regulations for mining in their district will prove successful remains to be seen. Similar attempts of this sort have been made before, but with no success, as it is extremely difficult to secure the consent of 95 per cent. of the operators.†

* See *Mine Workers' Journal*, August 5, 1897.

† In December, 1895, several meetings of operators and miners in the Pittsburg district took place, the object of which was to secure uniformity of prices and regulations for mining. It was decided that, if 95 per cent. of the operators of the district would agree to it, uniformity should be established. A committee of ten was appointed, who consulted with the different operators. After the ground had been gone over, they reported that about 92 per cent. of the operators had consented to the agreement. Mr. De Armitt, however, was not satisfied

The success of the miners in enlisting in their ranks the miners of the New York and Cleveland Gas Coal Company and a large number of those in West Virginia had a decided effect on some of the operators, especially those of the Pittsburg district. The result was that a conference of mine operators and representatives of the miners was called in Pittsburg, August 23, which lasted two days, and at which were present a number of operators who had maintained up to that time that they had nothing to discuss.* This conference accomplished nothing; but it served to define more clearly the position of the operators and the miners.

The operators were willing to submit the dispute to arbitration, but their plan was for each State to settle its own troubles. They also submitted a compromise scale of prices pending arbitration. In regard to arbitration and prices they made successively the following four propositions, each of which in turn the miners rejected:—

1. To start the mines (Pittsburg district) at 54 cents a ton, and let the award of the arbitrators apply to all the coal mined from the time of starting.
2. To start the mines at $61\frac{1}{2}$ cents a ton, with other conditions as in the first proposition.
3. To start without naming a price, requiring the board of arbitrators to report within thirty days their award, which was then to apply to all the coal mined.
4. To proceed to an arbitration without starting the mines, requiring that the arbitrators shall make an award within ten days or thirty days, as the miners should desire.

with this report, and sent out his own agents to make a canvass of the operators, which, he maintained, showed that only 60 per cent. of the operators would agree to the plan. Since that time he has run his mines independently of the other operators of the district and of the United Mine Workers. See Mr. De Armitt's testimony before the Pennsylvania Legislative Committee in *United Mine Workers' Journal*, April 22, 1897, and the testimony of other operators before the same committee, *Ibid.*, April 29, 1897. Also the testimony of President Ratchford before the committee, *Ibid.*, May 6.

*Early in July it became apparent that, to settle the strike in the other States, it would be necessary to bring about a conciliation of the operators and miners in the Pittsburg district. To this end the Labor Commissioners of Ohio, Indiana, and Illinois, visited Pittsburg, and offered their services as arbitrators. But their attempts were not successful, the operators whose mines were still running maintaining that they had nothing to arbitrate. See the *Chicago Record* for July 9, 13, 14, 1897.

The following propositions were offered by the miners, and refused by the operators:—

1. To start the mines (in the Pittsburg district) at 69 cents a ton, the miners to accept a reduction as soon as the arbitrators could act, if their decision proved to be that this price was too high.

2. To issue a call for a conference of representatives of operators and miners from the competitive States.*

After the August conference nothing was done by the miners to settle the strike until the middle of September. In the mean time there was great destitution among the strikers. But everywhere the public responded liberally to calls for aid. Governor Bushnell, of Ohio, issued a call to the public, asking aid for the miners of his State. In all the large cities large contributions of food and money were made, and relief stores were established in the various mining communities. The various branches of the Knights of Labor and of the American Federation of Labor throughout the country also made liberal contributions. Probably never before in this country have strikers been so well supported by public sympathy and by substantial aid.

By the beginning of September the miners saw that the coal famine they had looked for had not come. Those mines in Southern Illinois and West Virginia which had failed to take part in the strike, and some of the mines of Iowa, Colorado, and other States, were shipping coal to Chicago and the East. The shipments were not large, but they were large enough to prevent a coal famine. Hence, while there was a considerable rise in the price of coal immediately after the strike was begun, the price later fell to nearly the old level.

In view of these facts and of the rapid exhaustion of the

*When asked why the miners rejected the proposition of the operators to arbitrate the strike before opening the mines, President Ratchford said: "Because it applied only to the Pittsburg district. If we go into an arbitration of that kind, we want the whole competitive field represented. They declined to join us in a call for a general proposition, and so we refused their offer of arbitration, knowing that they were merely trying to harass us with a whole series of petty arbitrations. If we should arbitrate that way here, we would be called upon to do the same in other fields; and what we want is a settlement which will be general." *Chicago Record*, August 25, where is also an account of the negotiations.

funds of the miners' unions, it was decided at a conference of the miners, held in Columbus, Ohio, September 8-11, that they should accept a compromise. Instead of holding out longer for the scale of 69 cents for the Pittsburg district, with prices in other States in proportion, it was decided to accept 65 cents for the Pittsburg district. But ten days were to be allowed before resuming work, so that the scale of prices could be adjusted in the other States. The strike, however, was to be continued in all places where a proportional scale was not agreed to; and, to aid the strikers in such places, an assessment of 10 cents per ton was voted on all coal mined by those returning to work, to continue until the strike should end everywhere.

The compromise scale was acceded to by the operators in nearly all the different fields, the two notable exceptions being the Gas Coal Company (De Armitt) in the Pittsburg district and the operators in Northern Illinois. The Gas Coal Company continued to pay its old price of 54 cents per ton, with some four hundred of its men still on strike.* In Northern Illinois the strike involved many complications, and was continued with much stubbornness on both sides until the latter part of November. In May (1897) the miners had been forced to accept a reduction of 10 cents per ton, and to sign contracts at the reduced rates for a year. It was then maintained by the operators that the reduction was necessary, in order to enable them to compete with the operators of Southern Illinois. When the miners of Northern Illinois joined the strike, it was maintained by the operators that they could not afford to pay any advance, as they had contracted to sell coal on the basis of the accepted rates. Nevertheless, the miners demanded an advance proportional to that obtained in the Pittsburg district. To determine what that advance should be, repeated conferences were held. In the course of the negotiations the operators at one time took steps towards employing Chinese in

* This was the situation in December, 1897. The miners still out at that time were supported (according to a letter from an officer of the United Mine Workers) by the 10 cent assessment on the miners of the State who were working. Whether the company will pay the Columbus rates after January, 1898, when the attempt will have been made to put the "true uniformity" plan into operation, remains to be seen.

the mines;* while some of the miners went back for a time, and later again quit work.† Finally, at a conference held at Joliet on November 22, an advance of about 10 cents a ton was granted by the operators, to continue until May 1, 1898.‡

It is generally understood in the Pittsburg district that the settlement there is only temporary. Further conferences for fixing differentials in the various mining regions are expected, and a revival of the old interstate agreement is desired by the miners. The situation is still unsettled, and the future uncertain. On the whole, however, the miners have made considerable gains in the prices obtained for mining, and so have cause for congratulation. There is some prospect also that a return will be made to the system of interstate agreements, by which great strikes, like that of the past summer, may be averted. When the ignorance and low standard of a large proportion of those engaged in this struggle are considered, and the destitution and poverty of all, it is safe to say that no strike in recent years has been so well conducted or ended so peacefully as the coal miners' strike of 1897. A great army of over 150,000 men have, under the most trying circumstances, been brought through a struggle of over three months without committing any violent depredations and without rioting or shedding of blood.

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* A leading operator says that the only question about employing Chinese miners was whether sufficient protection against the strikers and their sympathizers could be given.

† This was true of the miners of Braceville and Coal City.

‡ I have omitted many details of the strike in Northern Illinois, and have given only the main facts and the results. The information in regard to this field was obtained directly from both operators and miners' officials. An account of the Joliet conference may be found in the *Joliet Republican* for November 24, 1897. In December about 1,000 miners in Streator and 2,000 in Southern Illinois were still out, the controversy being chiefly in regard to certain gross weight requirements under a recent State law, which brought an additional complication in the situation.

THE LEASE OF THE PHILADELPHIA GAS-WORKS.

AT a time when it was supposed the cities of the United States were about to enter into a period of greatly increased municipal activity, the third city of the Union has leased its gas-works for thirty years. This lease was made after the gas-works had been under full municipal control for more than ten years, and under partial municipal control during almost the entire existence of the works. The incident, while of first importance to the people of Philadelphia, has also led thoughtful persons to inquire whether the action of this city was not an indication of what is about to happen in relation to the gas and water works of other cities. If the Philadelphia lease is but an exceptional incident, it has no importance outside the city limits. But this is not the case, if the lease is significant of a new tendency in municipal development. The object of this paper is not to examine the relative merits of public and private management of gas-works. My object is to point out the facts regarding municipal management in Philadelphia, the nature of the lease, the way in which the proposition appealed to different classes of people, the arguments used, and the character of the legislative body which made the lease. I shall leave the reader to draw what conclusions he may regarding the general question of public control of gas-works, the advisability of this particular lease, and whether the conditions and feelings of the people of Philadelphia towards the lease and the character of her Councils are like or unlike the conditions which exist in his own city.

In March, 1835, the city invited subscriptions to the stock of a corporation to be incorporated for the purpose of the manufacture of gas, reserving to itself the right to elect the trustees, and also reserving the right to take possession of the gas-works upon converting the stock into city loans. This last option was exercised in 1841, but for the protection of the loan holders it was provided that the gas-works should be

managed by a board of trustees. This restrictive clause was construed by the Supreme Court of the State to preclude the city from all interference with the control of the trustees until the maturity and payment of the loan.* The trustees managed the works until July, 1885, when the last of the gas loans subject to the restrictive clause matured. Since 1885, therefore, the city has had full control of the works; and since 1887 the manufacture and distribution of the gas have been under the control of what has been known as the Bureau of Gas, a branch of the Department of Public Works. Under a contract made in 1888 the Philadelphia Gas Improvement Company began supplying the city with water gas, the price of this water gas at the time of the lease being 37 cents per 1,000 cubic feet in the holder.

The water gas has been mixed with the coal gas manufactured by the city. Every year the amount and also the proportion of water gas have increased. Beginning in 1889, with 919,647,000 cubic feet of water gas, in 1896 the city purchased 1,916,896,000 cubic feet. During the same period the quantity of coal gas manufactured had only increased from 2,231,509,000 to 2,997,065,000 cubic feet. Corresponding to the increase in amount of water gas used, the sum appropriated in payment to the Philadelphia Gas Improvement Company rose from \$300,000 in 1889 to \$700,000 in 1896. The Philadelphia Gas Improvement Company is one of the numerous subordinate companies organized by the United Gas Improvement Company. The latter is the company with which the present lease has been made.

During the discussion of the lease in Councils there was considerable question and confusion in the public mind as to whether the city gas-works had been conducted at a profit or loss to the city. The figures given in the annual reports to Councils by the successive directors of public works, and in the reports of the chiefs of the subordinate bureaus having to do with the manufacture, distribution, and sale of gas, and the care of lamps, tell a plain story. The figures in the reports before 1894 are of comparatively little interest, because on the 6th of January of that year the city passed an ordinance re-

* *Western Savings Fund v. Philadelphia*, 3 Pa. 175.

ducing the price of gas from \$1.50 to \$1 per 1,000 cubic feet. During the "dollar gas" period the profits, according to the reports of the Bureau of Gas, were:—

For 1894	\$192,310
For 1895	284,584
For 1896	352,988

In the reports of the Bureau, however, while all the receipts from gas-works are mentioned, the expenses for book-keeping, rentals, and care of gas street lamps are not included. These items during the years named amounted to \$280,625, \$281,566, and \$281,569, respectively. Deducting the amounts from the reported surplus, we have for the three years a net loss of \$74,442.23. During this period there was expended for extensions and improvements \$1,235,208. The largest expenditure was in 1894,—\$545,866. Thus in three years the net cash loss to the city was \$1,249,080. In thirty years at the same rate the loss would be \$12,352,000. This calculation does not give any credit for the lights used in and around the plant itself, in the public buildings, and on the streets. If we credit the city with this gas at the rate charged to consumers, we more than counterbalance the loss. The free gas furnished the city in 1894, not used in the works, amounted to 623,318,751 cubic feet; in 1895, 638,494,000 cubic feet; and, in 1896, 674,031,512 cubic feet.

At the time the bill was before Councils, no closer analysis was made of the actual cost to the city of its gas. Had this been done, a much more unfavorable showing of the city's management could have been made. Let us make such an examination for 1894. In giving the figures for 1894, it is proper to point out that these probably exhibit a loss to the city slightly in advance of 1895 and 1896. My reason for taking this year will appear presently.

The total amount of gas manufactured for private and public use was 4,110,401,000 cubic feet. Of this amount 2,605,278,000 are credited to the city's plant, and 1,505,123,000 to the plant of the Philadelphia Gas Improvement Company. The actual amount of gas which was burned in public lamps or reached private consumers was only 3,106,544,071; no less than 1,003,858,929, or more than one-quarter of the entire

amount manufactured, being unaccounted for. I am informed that it is impossible to attribute this loss, as is done in the reports, to leakage. The city would have been uninhabitable. While a great deal of the loss is due to leakage, much was due to the imperfect methods for testing the gas, testing at different pressures, and, more important, at different temperatures.*

The gas manufactured by the city was, as stated, 2,605,-278,000 cubic feet. The average proportion of loss being about one-quarter, the actual amount of gas manufactured by the city which reached the consumer or the public lights was 1,953,958,000 cubic feet. We find there was expended for the manufacture of gas \$2,014,454.43. In order to obtain the cost to the city of the coal gas, we must deduct from this amount the sum of \$557,428.88 paid for gas purchased. This leaves \$1,457,026.05. To this sum we should add the item of \$324,616.12 given in the report as "expenditure on works." Part of this was spent on ordinary repairs, the greater part in improvements; but the item does not represent any extraordinary expenditure or improvements. We may fairly charge it, as we have not charged for the annual depreciation of the plant. We ought also to add the sum of \$326,782.72, shown in the report as "repairs," though it is difficult to ascertain whether part of this item might not be more properly placed under the head of distribution. Thus the city spent \$2,108,424.89 in the manufacture of gas; and, as a result, the public and private consumers obtained, after the city paid for distribution, 1,953,958,000 cubic feet. This makes a cost to the city for manufacture alone of \$1.078 per 1,000.

The cost of distribution per cubic foot is somewhat more difficult to obtain from the reports, but can be arrived at with substantial accuracy. The amount of gas actually distributed, both that made and that sold, was 3,106,544,011 cubic feet. The items of expense were as follows:—

* This last applies especially to the gas furnished by the Improvement Company, which on its receipt was tested at a higher temperature than the average temperature of the mains, and, therefore, the volume of the gas contracted before reaching consumers. This fact may render the figures more unfavorable to the city than is just, as, in the absence of exact information, we have been obliged to consider the loss in the city's coal gas by so-called leakage the same as in the case of water gas. Yet any possible correction for this error would only slightly affect the result.

Street mains	\$102,364.97
Services	118,905.52
Lighting, repairing, and cleaning lamps	189,105.97
Total	\$410,876.46

To this perhaps ought to be added most of the items in the official report under the head "Miscellaneous," amounting to \$393,229, making a total of \$803,605 for distributing slightly over 8,000,000,000 cubic feet, or 25.8 cents per 1,000. It may be that a closer scrutiny would apportion the cost somewhat differently as between distribution and manufacture. The important fact will remain, however, that it cost the city about \$1.84 to supply the consumer with every 1,000 feet of gas it had manufactured. In this calculation we have not taken into consideration the cost of selling the gas and keeping the accounts, which in 1894 amounted to \$91,519, or an average of nearly 3 cents for every thousand feet. The total cost of the city gas, therefore, was \$1.37. The only reason why the department was not compelled to exhibit a large deficit for this year, as well as for 1895 and 1896, was that the city received over 1,500,000,000 feet of gas manufactured by the Philadelphia Gas Improvement Company, for which it paid that company 37 cents per 1,000. The city also made in 1894 about \$360,000 out of the sale of the by products of coal gas.

Essentially the same conclusion is reached from an investigation of the purchase of water gas and of the cost of the gas supplied for city use. The amount of gas received from the Philadelphia Gas Improvement Company in 1894 was 1,505,123,000 cubic feet. One-fourth of this amount, or 376,280,750, was lost in the mains. Therefore, the amount of gas received from the Improvement Company and used was 1,128,842,250 feet. The amount paid the company during the year was \$557,428.38. We can therefore consider the real price paid the company as 49.4 cents per 1,000. It cost to distribute this gas 25.8 cents per 1,000, and to sell it 2.93 cents. Therefore, on every thousand cubic feet of water gas sold at \$1 the cost was 78.13 cents, and the profit 21.86 cents. But all the gas received from the Improvement Company was not sold. The total amount of gas of two kinds consumed was 3,106,544,071 cubic feet. The gas used at the

gas-works themselves and in the offices of the Bureau of Gas was 26,698,800 feet. Therefore, the gas used in lighting outside the works was 8,079,845,271 feet. The amount of free gas used in the street lamps and in public buildings was 623,313,751 feet. In other words, on all the gas used, outside of that used at the city's gas-works and offices, 20.2 per cent. was free gas and 79.8 per cent. was sold to private consumers at the rate of \$1 per 1,000. We may therefore consider that the amount of gas received from the Improvement Company and sold was 900,816,115 cubic feet, on every thousand cubic feet of which there was a profit of 21.86 cents, a total profit of \$196,918. In the same way the gas actually manufactured by the city was, as we have seen, 1,953,958,500 feet. Of this 895,285,804 cubic feet were used by the public lights, and 1,558,672,696 cubic feet by private consumers, on which latter the city lost 37 cents per 1,000, or a gross loss of \$576,709. This is a net loss on the sale of gas of \$379,791.

To this loss must be added the cost of free gas. In order to find out the cost of the free gas, the proportion of coal to water gas in every thousand cubic feet must be ascertained. The nominal amount of gas manufactured was, as we have seen, 4,110,401,000 feet, of which 2,605,278,000 feet were attributed to the coal gas manufactured by the city. Therefore, in every thousand cubic feet of gas 63.4 per cent. was coal gas and 36.6 per cent. was water gas. The cost of the city gas was \$1.87 per 1,000 feet, and the cost to the city of the Improvement Company's gas was 78.31 cents. Therefore, the average cost of every thousand feet burned was \$1.16; and the total cost of the free gas and the gas used in the works was \$747,483. This, added to the net loss on the sale of gas, makes a loss of \$1,127,224. From this total must be deducted the money received from the sale of by-products and incidental receipts, which amounted to \$365,337. The net loss, therefore, for the year by our calculation is \$761,887. According to the city's calculation, provided we include the expenditure for improvements and extensions, the cost of keeping the books, lighting, and so on, the net loss is \$634,201. The difference arises from the fact that the city has tried to ascertain in part the actual outlay during the year on the gas

manufactured in that year, and to credit itself with the gas in the holders on December 31, 1894; while the figures above given deal, so far as possible, with the cash actually received and paid out and the gas actually burned.

With such a showing the time was unquestionably ripe for pushing through a sale or long lease of the works to a private company. The United Gas Improvement Company, which has obtained control of the works, submitted to the mayor, prior to the meeting of the city Councils, a draft of a lease of the gas-works which they were willing to execute. It is fair to presume that the mayor, by submitting the lease to Councils, signified his approval of it. The lease finally authorized by Councils was in many respects much more in favor of the city. The main points of difference will be indicated after describing the lease now executed. The original lease was in many ways an extraordinary document for a company to present to a city. I do not refer now to the main provisions of the lease, but simply to the language of the provisions. This language bears a greater resemblance to a contract for a payment of goods by instalments at a retail credit store than to a contract for the lease of the property of a great city. Appraisements of the value of property for which the city might have to pay were to be made by the officers of the Gas Company. One clause in the contract recited the great disadvantage to the company from the city's exercising a particular option: therefore, so runs the contract, "this option has been conceded very reluctantly by the said company." These objectionable matters were corrected before Councils made the contract; but, even as signed, it is manifest to the casual observer of legal training that the clauses have been drawn by the attorney of the company. This is principally owing to the failure of Councils to adopt the majority of the suggestions of the city solicitor for the improvement of the details of the contract in points of law, though these suggestions were made at the request of the sub-committee having the bill in charge.

The main provision in the contract is the lease of the city works for thirty years and the vesting of the lessee during that period with an exclusive franchise to enter the streets of the

city for the purpose of digging mains. There is a clause authorizing the city to terminate the lease at the end of ten years on the repayment to the company of all sums of money expended by the company in or about the buildings, machinery, mains, and services, and the payment of the present value of the Philadelphia Gas Improvement Company Works, together with interest at six per cent. on each of these sums. As this would involve an outlay of some ten millions, the city will practicably be unable, on account of limited borrowing powers, to accept the option, unless a new lease is made to another company agreeing to pay the price necessary to buy out the present company. As far as the resumption of municipal control is concerned, the option might almost as well not exist. The city has no obligations to perform unless it should desire to increase the number of street lamps in one year by a number exceeding three hundred. In this case the gas used by the extra lamps must be paid for at the rate at which it is served to private consumers.

There are several obligations of the company to the city. At the end of two years the ground on which one of the city's gas-works now stands, estimated to be worth \$1,000,000, must be redelivered to the city. The city has contemplated for a long time abandoning these works, and has spent of recent years comparatively little on them. Without a large expenditure of money they cannot be operated except at a loss. Besides this transfer, the company is obliged to pay the city for the first ten years of the lease the difference between 90 cents per 1,000 cubic feet and the price at which the gas is sold, for the next five years the difference between 85 cents and the price at which the gas is sold, for the next five the difference between 80 cents and the price, and for the last ten years of the lease the difference between 75 cents and the price. The price of gas is to be \$1 per 1,000 cubic feet, unless Councils see fit to reduce it; but during none of the four periods can Councils reduce the price below the amounts mentioned as the sum to be received by the company during each period. If the price remains \$1 for the next thirty years, the estimate of the president of the company is that the payments to the city will amount to \$86,000,000. If the city reduces the price

of gas to the minimum prices during the periods, then no money will be paid to the city.

The company also obligates itself to expend on extension of the mains and improvement of the works \$15,000,000 in thirty years, or an average of \$500,000 per year. But \$8,000,000 has to be expended by the company in three years from the date of signing the contract. The expenditure is higher than the average spent for a similar purpose for the last three years by the city, by upwards of \$88,000; but it is less than the amount spent by the city in 1894. There have been many complaints that not enough money has been spent during the last few years on the extension of mains and for other increase of service. It is probable that the sum of \$15,000,000 is less than the company will have to spend to keep up with the growth of the city.

The company also agrees to supply the public buildings and the present number of lighted street lamps free of cost, besides a maximum of 300 additional lights each year. The present number of lighted lamps is by no means the number of lamps in existence. In 1896 the total number of gas lamps was 21,614; but only 19,173 were lighted, 2,441 not being used on account of the proximity of electric lights. The city cannot, therefore, without expense light all its present lamps for eight years. The provision in regard to additional lights reads: "300 street lamps in addition to the number supplied in the preceding year, when directed to do so by order of Councils, which shall also specify the location of the same." If less than 300 lights are erected in one year, no more than 300 can be erected the next year. If Councils make a mistake in location, the city loses the advantage of the light. One has only to turn to the report of the Bureau of Lighting to see that such mistakes are frequently made. In 1896, out of 319 gasoline lamps directed by Councils to be erected, the bureau, owing to mistakes in the description of the location or the existence of other lights in the place indicated, could not erect twenty-five. The company provides the gas burners, lights and cleans all lights, and repairs lamps; but the city erects the lamps at its own expense. The average increase in street lamps in the last five years has been over 800 per year. If this rate is maintained,

at the end of thirty years the city will be paying the United Gas Improvement Company for 15,000 lamps. As each lamp burns about 20,000 cubic feet per year, that will mean a bill for 300,000,000 feet of gas at 75 cents, \$225,000 per year.

The company agrees to improve the quality of the gas from 19.15 candle power to 23 candle power, and to lay mains and make connections whenever one property owner for every 100 feet will agree to take gas for one year. Perhaps the most popular feature of the lease to land-owners is the clause which prohibits the company from saying it will not serve gas to any one tenant until a former tenant has paid his bill, as was the custom of the city. The claim for unpaid gas was never a lien on the property.

Such was the lease, as finally passed. As it was originally introduced, no additional free gas was to be furnished to the city. The \$15,000,000 to be expended in improvements and extensions was a maximum figure, not a minimum. Replacements and alterations were also included in the expenditures for improvements and extensions. The company did not undertake to light the street lamps or keep them clean.

During the time the ordinance was before Councils, public discussion was active. The so-called better element was divided. Had the question been left to a vote, the lease would have been overwhelmingly defeated. As far as the writer could observe, the chief arguments for the lease were the statement of the facts in the city's reports showing an annual loss, the bad condition of the mains and works, and the constitutional restrictions which so hampered the city's borrowing powers that, in a view of the better advantages desired in the way of water, streets, and schools, it would be extremely inconvenient for the city to borrow the \$5,000,000 necessary to put the gas plant in good condition.

In all such matters sentiment has a great deal more to do with the attitude of the average man's mind than fact. Especially among the so-called better classes, a large section believes that the proper business management of a city office is an impossibility. To these, any lease to a solvent company was better than city management. This feeling, strong in many minds in respect to all city government, was peculiarly

strong in relation to the gas-works. There are few house owners or tenants who have not been at one time or another to the city gas office. Justly or unjustly, few citizens have come away from the gas office in a peaceable frame of mind. Indifference, delay, and courtesy were the rule rather than the exception. The man one was told to see was invariably out, the place was full of smoke, and the most casual observer could not fail to get the impression that but little work was being done in proportion to the number paid. I believe these facts, consciously or unconsciously, were the real reason that many citizens were in favor of the lease. On the other hand, the man who was opposed to the lease, in the majority of cases, was also moved by sentiment, not fact. By a large body of persons public control *per se* is regarded in a favorable light, irrespective of the fact that they may condemn in bitter terms a particular example of public mismanagement. Then, too, there is widely spread through the community the belief that nine men out of ten who want a public franchise are bribers and corruptionists. The "eminent respectability" of those in control of the United Gas Improvement Company was the target of much raillery. Nearly every man one met had a positive opinion one way or the other, but not one in ten had read the lease. It would be as unfair to assume that no arguments were made by those opposed to the lease as to make the same assumption in regard to those who were in favor of it. I only wish to point out that the bulk of those on either side were influenced solely by sentiment.

Those who argued against the lease urged that, if the United Gas Improvement Company under business management could make a profit, the city under like management could do the same thing. Again, it was pointed out that the lease was too long. No one knew how far improvements might reduce the price of gas in the next thirty years. In the last thirty years this reduction under city management had amounted to over \$2. What warrant was there for believing that the next thirty years would not witness a reduction proportionately as great? It was pointed out that the provision for 300 additional lights each year was inadequate, and that before the lease expired the need of

larger additions would cause a heavy annual drain for the city. The fact was emphasized that no money was to be paid to the city, if the price of gas was reduced; and it was argued that, with the inevitable fall in price in other cities, Councils would have to make all the reduction in their power, and then the city would get nothing. As many other syndicates and companies came forward, and offered better terms to the city, one company going so far as to offer a bonus of \$10,000,000, payable over several years, those opposed to the Improvement Company used the offer as a proof that the lease should not be made. But the lease was made, the stock of the United Gas Improvement Company has risen from ten to fifteen points, a rise in value of over \$1,500,000, and immediately speculation was rife as to the probable profits of the company.

All such calculations must contain many "ifs." The principal "if" in regard to the profits is the future of gas as an illuminating and as a heating commodity. There is also great uncertainty in regard to the cost of manufacturing water gas. One company has offered to manufacture this gas for 25 cents per 1,000 cubic feet. It is asserted that, by good management, the cost of distribution can be reduced below 15 cents per 1,000. If this is true, and if the use of gas is going to increase in the next thirty years at the same rate at which it has increased in the last ten years, any one who examines the figures here given will find that the profits under the lease will be anywhere from \$20,000,000 to \$40,000,000. On the other hand, if the cost of water gas is 37 cents, and 25 cents is a fair allowance for the cost of distribution, the profits of the company will not exceed \$5,000,000 or \$6,000,000; and the slightest bad management may convert the enterprise into a loss. Perhaps the most accurate statement of the case would be that the company had received from the city a franchise of great value, provided the conditions of the illuminating business did not radically change, and provided the enterprise was conducted by the company in a businesslike manner. The most valuable feature of the franchise to the company is the fact that the annual outlay on improvements and extensions, except perhaps one-half the outlay during the first three years,

is repaid out of the annual revenue. In other words, in our calculation of the cost to the city of the manufacturing of gas, we have included outlay for improvements to the extent of \$545,000. It is true that in the next three years the company must expend \$3,000,000; but at the end of the three years the annual outlay to be repaid out of income will hardly exceed \$500,000, and may be much less. I selected the year 1894, in estimating the cost to the city of manufacturing gas, for the reason that in that year the city expended on so-called improvements more than the average amount which will have to be expended by the company during the lease.

There is an almost universal belief among all classes in the city that bribery has been used to obtain the acceptance by the city government of this lease. This belief is not confined to those who are opposed to the lease, but is shared by many who were strongly in favor of it. The words "eminent respectability," had they not been used in an offensive sense, would accurately describe the men connected with the company. The belief that these men used bribery to obtain property shows to what depth of degradation we have come. It is possible for a large part of the community to believe without direct evidence that some of the first of their fellow-citizens have acted as rascals.

In view of evil rumors originating (so the listening citizen is told) from the most authentic sources, it is well to point out the only facts known to the public. It is unnecessary to say that, if we give a fair trial to the meanest of men, we certainly owe it to such men as form the United Gas Improvement Company. We should not attend to accusations made by those whose only source of information is idle rumor or the tale that was told to the informant's informer by "some one who knows." It must be remembered that the crime which is charged is not bribery to protect property already in existence from attacks by blackmailing legislators. In such case, bribery is a crime; but it is not organized public plunder. There is no low villain in the slums more vile, there is no anarchist more to be feared, than those who bribe legislatures to obtain a franchise. No class of men will receive an equal amount of condemnation from posterity, and none will so richly deserve it.

In relation to this lease there are only two facts known to the public which have any bearing on the question of bribery. These are the nature of the lease itself and the character of Councils. In regard to the first, we have seen that the lease gives a prospect of large profits. At the same time the mere fact that the company is to reap even enormous profits out of the enterprise is no evidence that a sane man, desiring the best interests of the city, would not have been in favor of the lease. As we have seen, the gas-works were unquestionably conducted at a loss to the city; and this loss will be stopped. There is no reason, therefore, why any councilman should not have voted for the lease as the result of an honest opinion that it was for the benefit of the city. That which on its face is the strongest argument for an opposite conclusion is the fact that the city was offered a bonus of \$10,000,000 by another company for a similar lease. But the financial responsibility of the bidder, his good faith in bidding, and his experience in the class of work he undertakes to perform for the city, are as important factors as the actual price offered. I am far from asserting that the other bidders for the lease were not in good financial standing, or that they did not bid in good faith, or that it was wise for the city to refuse to take any of their offers. But a belief that it would not be proper to lease to any of the other bidders was not so unreasonable that any one who pretended to have such a belief must be adjudged to have wilfully disregarded the city's interests. It should be pointed out also that none of the competitors for the lease had the same experience in manufacturing gas as the United Gas Improvement Company.

The only other fact in evidence is the condition of Councils. Councils consist of two branches: Select Council, with thirty-eight members, and Common Council with one hundred and thirty-seven members. Both are elected by popular suffrage—the members of the upper branch serving for three years, and those of the lower branch for two. The upper branch represents the wards, each ward having one representative. The lower branch also represents the wards, each ward electing one common councilman for every 2,000 votes. The mayor, who is elected for four years, has a veto power over all acts.

The members of Council are not paid for their services. There is a wide-spread belief that only a very small minority in Councils ever vote for a franchise of any kind, good or bad, unless they are paid for their votes. To many minds belief has been converted to absolute certainty since the exposure in regard to what is known as the "Automatic Telephone Scandal." There are those in the community who do not believe this state of affairs to exist. Some of these hold the persons known as "municipal reformers" responsible for the impression. My own feeling is that the belief is due very much more to the assertions made as to the character of councilmen, by those who are supposed to be "in with the boys," than to any charges made by the reformers. There are doubtless some members in Councils whose actions could be influenced by money. But the assertion that a considerable number of councilmen will not act on important ordinances giving franchises unless they are paid their price, is exceedingly doubtful, and I believe is founded on a misconception of the actual working of our city legislature.

The truth would seem to be that the members are not self-acting agents, and therefore, with few exceptions, not in a position to demand a bribe. An assertion was made to me by one of the members that there is not a man in Councils who does not sit there at the sufferance of some boss. By boss he did not mean a Quay or a Martin, though there are certain representatives in Councils known as Martin men, being under his direct influence. The bosses whom the average councilman obeys or disobeys at the peril of his seat are men not heard of outside the confines of Philadelphia. The different railroads have their political agents. These agents are local bosses in small sections of the city. There are a few men known as belonging to the Reading Railroad's political agent, others who belong to the Pennsylvania Railroad's political agent or the Traction's political agent or the political agent of some other company which must go to Councils from time to time and ask favors. There are a few local bosses in Councils who control the remaining representatives from their wards. There are many in Councils who would scorn to take a bribe, and to whom no sane man would think of offering a bribe,—men who have

the interest of the city at heart, but who, consciously or unconsciously (largely consciously), have their action on different bills affected by the knowledge that their return to Councils depends upon the way they vote on a particular measure.

As a result, no matter how bad I believed the character of the man seeking a franchise, and no matter how willing he would be to bribe in order to get it, I should be surprised to hear that there was much direct bribery of individual members of Councils. In order to get a bill through Councils, one must secure the approval, not of the councilmen, but those who control them. Unquestionably, it is as bad to bribe the man whom you know to control the councilman's vote as to bribe the councilman directly; but it is much harder for others to prove it. Nor is it always necessary to use money to convince a local boss. An opportunity to make an investment or a subscription to a campaign fund may be sufficient. He may act for you in view of favors past or in view of favors not promised, but reasonably expected in the future. The mere desire to stand well with such as you may influence him. Possibly he may be moved, though in franchise matters it is said that this is rather rare, by considerations of what is best for the city's interest.

I stated in the opening paragraph that I should leave conclusions to the reader, and I shall do so. The picture which I have tried to give of the result of municipal control of a great work by the third American city, the nature of the lease which that city has just made, and the condition of her Councils, supply much food for reflection. Would that it were of a more pleasant character.

WILLIAM DRAPER LEWIS.

PHILADELPHIA.

NOTES AND MEMORANDA.

STILL another collection of German economic monographs is announced,—the *Volkswirtschaftliche Abhandlungen der badischen Hochschulen*, edited by Professors Fuchs, Herkner, v. Schulze-Gävernitz, and Weber. As the title indicates, the series will publish the results of investigations carried on in the universities of Baden. The first number, by Dr. Liefmann, is duly noted in the current bibliography.

THE Swiss Assembly has acted favorably on the proposal made to it by the Federal Council for the purchase and management by the state of the principal railway lines of Switzerland. The Council had made its proposal in a message of March 25, 1897; and the main provisions of the bill then submitted are incorporated in the act passed by the Assembly on October 15.

The act provides that the five main lines of Switzerland, with a total length of 2,644 kilometres, shall pass into the hands of the Confederation; namely, the Jura-Simplon (939), the Nord-Ost. (764), the Central (398), the Vereinigte Schweizer (269), the Gotthard (273). As the railways of Switzerland had in 1895 a total length of but 2,949 kilometres, the purchase would lead to a system of practically complete state ownership. The five lines mentioned are to be bought on the terms of purchase reserved for the state in the charters of the several companies; but the Federal Council is authorized also to buy them by agreement with the companies, and, further, to contract for the purchase of other railways and of connecting steamer lines. For four of the main lines the state's right of purchase accrues in 1903, but notice of its intention to exercise the right must be given in February and April of 1898. For the Gotthard line the date for notice is

1904, and that for purchase is 1909. The conditions of purchase are laid down in nearly the same terms in the charters of all the companies: the state may buy on paying twenty-five times the average net earnings of the preceding ten years, but not less than the cost of construction. The Federal Council estimated the total sum needed at 964 millions of francs. As was to be expected, the referendum has been demanded on this important question; and the popular vote will be taken in February.

THE first issue of *L'Année Sociologique* is announced for the beginning of 1898 by the firm of F. Alcan, Paris, under the editorial charge of Professor M. E. Durkheim, of Bordeaux. The new annual will publish papers and memoirs and systematic surveys of the literature of sociology. The papers in the first volume are two,—*La Prohibition de l'Inceste et ses Origines*, by the editor, and *Comment les Formes Sociales se maintiennent*, by Professor Simmel. The literary notices are grouped under the heads of general sociology, religious sociology, legal and moral sociology, criminal sociology, economic sociology, and the like, each section being in charge of one or more reporters. The price of the volume is 7.50 francs.

THE firm of G. Fischer, Jena, announces a *Wörterbuch der Volkswirtschaft*, under the editorial charge of Professor E. Elster. A number of German scholars, mainly of the younger generation, will contribute. The *Wörterbuch* will be in two large volumes of some 1,000 pages each, of which the first is expected to be published in the spring. The price for the entire work will be 20 marks. It is designed to give "an exposition, popular in the best sense, and strictly scientific, of the present stage of economic knowledge."

The same firm continue the supplementing and revision of the larger and fuller *Handwörterbuch der Staatswissenschaften*, already favorably known to students of economics and politics. An additional supplementary volume for the first edition is

now in press, and will be issued shortly. Almost simultaneously the publication of a new and completely revised second edition of the entire *Handwörterbuch* will begin. The first instalment of the new edition is to appear in June of 1898, and the whole is expected to be in the hands of subscribers within three years from that date.

THE plan proposed by the Secretary of the Treasury for segregating the redemption fund from the other holdings of the Treasury, and retaining greenbacks and treasury notes redeemed by it until such time as they are called for in exchange for gold, is generally recognized as striking at a glaring defect in the present system of redemption. So long as the United States issue redeemable paper, some arrangement on the principle adopted by Mr. Gage is indispensable, if the country is to escape a repetition of the calamities of the last four years. Such an arrangement is, in fact, the logical complement of the Resumption Act itself.

Some signs of disappointment have been shown, however, that the programme to which Mr. Gage committed himself in his annual report should have been confined to the limits which he then felt it necessary to observe. But it was made clear by Mr. Gage at the hearing before the House Committee on Banking and Currency, December 16 and 17, that the reform which he has entered upon goes far beyond the immediate scope of the measures proposed to Congress. On presenting his banking bill to the committee, Mr. Gage informed them that his objects were to commit the country more thoroughly to the gold standard, to strengthen the Treasury in its relation to the demand liabilities resting upon it, to do this in such manner as not to contract the volume of the circulation, and to take initial steps towards a system of bank issues without a conditional deposit of bonds. Upon the question being asked by one of the committee whether the result would not be the eventual use of one kind of paper—that is, bank notes—and of no silver except subsidiary silver, Mr. Gage is reported to have answered somewhat cautiously, but significantly: "There

is nothing in the limited measure proposed to bring about the condition of affairs that your question contemplates. It is in a direction which, if pursued by further legislation to an ultimate conclusion, might lead to the result that you suggest." But he would not say that silver would be limited to subsidiary silver. "I should say a system of silver circulation which would be subordinate. It is a subordinate system now."

Opinions may differ as to the manner in which it is expedient to attack such problems as are here foreshadowed, but there can be no question that Mr. Gage has a distinct vision of their range. It is also certain that upon him rests the responsibility for selecting the mode of approach.

THE bill extending the privilege of the Bank of France, passed by the Chamber of Deputies last July, was adopted without change by the Senate in November, and took effect January 1. Under this law the bank continues to be the only bank of issue in France until December 31, 1920, unless in the course of 1911 the Chambers require the termination of the privilege December 31, 1912. In most of its provisions the law as adopted is identical with the bill presented by M. Rovier in 1891 and discussed in M. Burdeau's report; but, when it differs, it is generally in order to conform to the obvious tendency of legislative opinion in favor of imposing upon the bank more onerous conditions as the price of its exclusive privilege.

Under the new law, besides a fresh advance of 40,000,000 francs to the treasury, the abandonments of interest upon advances amounting in all to 180,000,000 francs, and some increase of its gratuitous services to the government and to the public, the bank is now for the first time required to make an annual payment to the state in cash. In 1891 it was proposed to make this a fixed payment of 2,000,000 francs per annum; but, in passing the present law, it was determined to make it a payment proportional to the profit derived by the bank from its issue. For this purpose an ingenious use was made of the arrangement by which for some years the stamp

duty has been assessed on what is called the productive circulation of the bank. It is assumed for that purpose that the profitable part of the note issue is fairly represented by the (amount of loans, discounts, and advances upon which the bank makes its earnings.) Upon the same amount is henceforth to be calculated the annual payment, taking one-eighth of the rate of discount as the rate at which payment is to be made. Thus, if for 1896 the average productive circulation was 1,095,400,000 francs and the rate of discount 2 per cent., the annual payment would have been. $0025 \times 1,095,400,000$ francs, or 2,738,500 francs. In the fourteen years ending with 1896 the annual payment required from the bank by this mode of calculation would have averaged 3,500,000 francs.

On the final passage of the bill in the Chamber of Deputies, July 1, the division stood 396 for and 91 against its adoption. At a previous stage, June 10, a motion looking towards the substitution of a national bank for the Bank of France was rejected by a vote of 114 for and 405 against. The movement in favor of some change by which banking facilities should be afforded to agriculturists was stronger. A motion to postpone the Bank of France bill until the government should also present one for agricultural credit received 174 votes, 362 opposing it, June 22; and one requiring the Bank of France to place 500,000,000 francs, at $\frac{1}{2}$ of 1 per cent. interest, at the disposition of a Crédit Agricole to be organized by law, received 178 votes, with 338 opposing it, June 24. By the law as passed the 40,000,000 francs to be advanced by the bank to the treasury, and the annual payments to be made as above stated, are to be reserved by the treasury and carried to a special account until provision is made by law for the creation of one or more establishments for agricultural credit, when they are presumably to be used for the aid of such establishment. The Bank of France is also now authorized, in making its discount, to accept the signature of agricultural syndicates as well as of commercial bodies or persons.

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APPENDIX.

NOTES ON COURNOT'S MATHEMATICS.*

1. *p. 34, end.* c_{32} is found by dividing the value of c_{31} by the value of c_{21} , in accordance with the second line of equation (c), *p. 33*. The values of c_{31} and c_{21} were, of course, obtained by solving the two equations above them. (The mathematical reader will note that Cournot must have been unacquainted with determinants, which in his time were not widely used. Otherwise he would almost certainly have expressed the general solutions of (d) instead of restricting himself to the special case of three centres; also on pp. 110 and 115, Q and R would have been explained to be determinants.)

2. *p. 36.* I , the net money imported at (1), is the difference between the total debts to (1) from *all* sources; *i.e.*, not simply from (2) and the total debts from (1). Similarly for E . To verify equation (e), write it in full; *i.e.*, substitute the values of E and I . Two terms on each side will then drop out (remembering that $\gamma_{12} \gamma_{21} = 1$); and the result will be found identical with that obtained by adding together all equations (d) except the first two, remembering that c_{21} is now γ_{21} and that $c_{32} \gamma_{21} = c_{31}$, etc.

3. *p. 53, equation (1).* The value of p which will render $pF(p)$ a maximum is the root of the equation formed by putting the differential coefficient of $pF(p)$, namely, $F(p) + pF'(p)$, equal to zero.

4. *p. 53, first new paragraph.* The geometrical interpretation of maximizing pD is to maximize the rectangle On , since the area of this rectangle is the product of its base, Oq or p by its altitude, qn or D . It is a proposition of geometry that On is a maximum when n is so situated that $Oq = qt$. This equation, in fact, is a geometrical form of equation (1), which may be written $p = \frac{F(p)}{-F'(p)}$, where the left member is represented by Oq and the right member by qt (for $F(p)$ is nq and $F'(p)$, the slope of the curve at n , is $\frac{nq}{-qt}$, so that $\frac{F(p)}{-F'(p)} = \frac{nq}{\frac{nq}{-qt}} = qt$.)

5. *p. 54, § 25.* To discriminate between the cases of maximum and minimum of $pF(p)$, resort is had to the *second* differential coefficient of $pF(p)$; *i.e.*, the differential coefficient of $F(p) + pF'(p)$ or $2F'(p) + pF''(p)$. According as this is negative or positive will the value of p belong to a maxi-

* In preparing these notes, Mr. Fisher has received valuable criticisms and suggestions from Mr. John M. Gaines, of the Graduate Department of Yale University. The references are to the pages of the English translation by Mr. Nathaniel T. Bacon.

num or a minimum. This second differential coefficient may be transformed by substituting for p its value, $-\frac{F(p)}{F'(p)}$, obtained from (1), p. 53. The inequality thus obtained is next cleared of fractions by multiplying through by $F'(p)$, which, being a negative quantity, reverses the signs of inequality. The final result is that at the foot of p. 54. Examination of this result shows that the first term is necessarily positive, and that the second term, $-F(p)F''(p)$, will also be positive if $F''(p)$ is negative.

6. p. 56. Equation (1) gives $p = \frac{F(p)}{-F'(p)}$, which multiplied by $F(p)$ gives $pF(p) = \frac{[F(p)]^2}{-F'(p)}$.

7. p. 57, equation (2). To make the net receipts $pF(p) - \phi(D)$ a maximum, its differential coefficient must be zero; i.e., $F(p) + pF'(p) - \frac{d\phi(D)}{dp} = 0$. Cournot's result (2) is the same, D being in place of $F(p)$, $\frac{dD}{dp}$ in place of $F'(p)$, and $\frac{d\phi(D)}{dD} \times \frac{dD}{dp}$ in place of $\frac{d\phi(D)}{dp}$. The form given on p. 61 (3) is nearer that here expressed.

8. pp. 61, 62. Supposing $\psi(p)$ to be replaced by $\psi(p) + u$, equation (3), namely,

$$F(p) + F'(p) [p - \psi(p)] = 0 \quad (3)$$

becomes $F(p) + F'(p) [p - \psi(p) - u] = 0 \quad (3)'$

If the root of (3) is p_0 , the root of (3)' is called $p_0 + \delta$. (3) may then be written,

$$F(p_0) + F'(p_0) [p_0 - \psi(p_0)] = 0$$

and (3)', $F(p_0 + \delta) + F'(p_0 + \delta) [p_0 + \delta - \psi(p_0 + \delta) - u] = 0$.

Now, by Taylor's theorem, $F(p_0 + \delta) = F(p_0) + \delta F'(p_0) + \text{terms involving squares and higher powers of } \delta$, which may all be neglected, assuming δ sufficiently small and Taylor's theorem applicable. Substituting this value for $F(p_0 + \delta)$ and, in like manner, $F'(p_0) + \delta F''(p_0)$ for $F'(p_0 + \delta)$ and $\psi(p_0) + \delta \psi'(p_0)$ for $\psi(p_0 + \delta)$, we obtain another form of (3)'. If (3) be subtracted from this, the result is (4), after neglecting any terms which may remain involving increments of the second order, such as δ^2 or δu . The process, here exemplified, of deriving the relation between a small cause such as u and its effect δ , is so repeatedly employed by Cournot that the careful student will do well to master it once for all.

9. p. 63. The formula immediately preceding § 34 is obtained by substituting in the formula above it the value of $p_0 - \psi(p_0)$ derived from (3), namely, $-\frac{F(p_0)}{F'(p_0)}$, and then multiplying through by the negative quantity $F'(p_0)$, which reverses the signs of inequality.

10. p. 71. The value of $p' - p_0$ is derived just as was equation (4) on p. 62. In fact, (4), p. 62, and the present equation are identical except in form. The tax i here takes the place of the increase of cost, u ; and $p' - p_0$, the increase of price, is the same magnitude as δ . The identity is seen by obtaining the value of δ from (4), p. 62, multiplying numerator and denom-

nator by $F'(p_0)$, and substituting for $F'(p_0)$ [$p_0 - \psi(p_0)$] in the denominator its equal, — $F(p_0)$, as given by the first equation on p. 71.

11. p. 72, line 2. *I.e.*, the loss is the difference between the net income at price p_0 and the net income at price p' , which latter net income involves the deduction of the tax $\psi(p')$.

12. p. 72, line 7. The left member, being the *maximum* value of the function two lines above, is necessarily greater than the right member, which is *another* value of that function.

13. p. 72. The third formula from the bottom is obtained by adding the two inequalities which follow.

14. p. 73, *first equation*. See note 3.

15. p. 74, *last equation*. See note 11.

16. p. 77, line 7. Of the two cases, the second begins on p. 78, line 3, *not* on p. 77, last paragraph, which relates only to a subdivision of case one.

17. p. 82, line 5, *ff.* To put $D_1 = 0$ in *equation (1)* means to ask the question, Under what circumstances would producer (1) find it profitable to make $D_1 = 0$; *i.e.*, to cease producing entirely? The answer is, When $f'(D_2) = 0$. Since $D = D_1 + D_2 = D_2$, $f(D_2)$ is $f(D)$ or p (p. 80, line 7). Hence $p = 0$. In fact, it is evident *a priori* that producer (1) would cease producing only when D_2 , the output of his rival, is large enough to make the price zero. To put $D_1 = 0$ in *equation (2)*, on the other hand, is to ask, What would producer (2) do if producer (1) withdrew from the field? The answer is, He would then be a simple monopolist, and would maximize pD_2 . To accomplish this, p cannot be zero. That is, in both cases D_2 represents the total output; but, in the first case, this output is large enough to reduce the price to zero, while in the second it is not. Hence D_2 in the first case exceeds D_2 in the second.

18. p. 82. Equation (3) is derived from the preceding equation by substituting p for $f(D)$ and $\frac{dp}{dD}$ (this being the same as $\frac{df(D)}{dD}$) for $f'(D)$, and then dividing through by $\frac{dp}{dD}$.

19. p. 83, § 45. Here x is put for p . y has no special economic significance. The manner in which the intersection of the two curves corresponds to the solution of equation (3) is that the x of the intersection is equal to the value of p which satisfies (3). The reason for this is that for the point of intersection the co-ordinates of the two curves are equal; and, since the y of one is equal to $2x$ and the y of the other to $-\frac{F(x)}{F'(x)}$, we have $2x = -\frac{F(x)}{F'(x)}$. Since this equation is obviously a form of (3), the x which satisfies it is equal to the p which satisfies (3).

20. p. 84, top. The condition that the curve must fulfil in order that the result given may follow is incompletely stated. It should have been added that the value of the function for $x = 0$ (as well as for $x > 0$) must be positive.

21. p. 84. Equations (5) are simply the general case, for n producers, of equations (1) and (2) on p. 81 for two producers.

22. p. 85. Equations (6) are the conditions that the profit of each producer shall be a maximum. That profit is no longer given by the expression on p. 80, line 10, but by that expression less the cost of production, $\phi_1(D_1)$ for producer (1), or $\phi_2(D_2)$ for producer (2), etc. The differential coefficient of this new expression for the profit of each producer will give the equations (6).

23. p. 85, three lines from bottom. $\frac{dD}{dp}$ is negative because of the law of demand. An increment of the price p causes a decrement of the demand D .

24. p. 86. Equation (7) is obtained by dividing the previous equation by $f'(D)$ and replacing $f(D)$ by p .

25. pp. 87-89 are devoted to a difficult proof that the value of p derived from (8) is greater than that derived from (7). The statement in the first line of p. 87 is not necessarily true, though it does not affect the argument.

26. p. 87, last two lines, and p. 88, top. Equations (6), on p. 85, show that D_1 is a function of D . But D is a function of p . Hence D_1 is a function of p . This function Cournot calls $\psi_1(p)$ or $\psi_1(x)$. In like manner D_2 is a function of p , and is called $\psi_2(p)$ or $\psi_2(x)$, and so on.

27. p. 88. As in note 19, if we equate the right members of (a) and (b), we obtain the abscissa of the intersection. But the equation thus formed being identical with (7), p. 86, its root must also be the same as the root of (7).

28. p. 88, 10 lines from bottom. OP is the value of y in (b) when x is zero; i.e., it is minus the long bracket, or $-\Sigma\psi_n(x)$. Similarly, OP' is the value of y in (b') when x is zero; i.e., $-\psi(x)$. Since $\Sigma\psi_n(x) > \psi(x)$, OP is numerically greater than OP' .

29. p. 89, line 10. "Stop producing" means here "cease to extend production," not "go out of business."

30. p. 90. The first equation on this page is a form of any one of equations (6), p. 85. The subscript k stands for any one of the subscripts, 1, 2, etc. All that is necessary to see the identity between (6) and its new form is to replace $f(D)$ in (6) by p , $f'(D)$ by $\frac{dp}{dD}$ and divide through by the latter.

31. p. 93. The process for deriving the central equation on this page is identical with that explained in note 8. Namely, we write (3) thus: $\Omega(p_0) = F(p_0)$, and (4): $\Omega(p_0 + \delta - u) = F(p_0 + \delta)$, and subtract the first from the second after expanding the latter by Taylor's theorem.

32. p. 93. The two inequalities are evident, if we remember that u is given positive.

33. p. 96. Equation (5) may be derived as follows: The expression for profit is evidently $D_k p - \phi_k(D_k) - npD_k$; i.e., it is the gross receipts less the cost of production and the amount of the tax. The condition of maximum requires as usual that the differential coefficient of this expression be zero. This differential coefficient is evidently the left member of (5) plus $D_k \frac{dp}{dD_k}$, which, however, may be neglected in accordance with the next note. Cournot, however, evidently had in mind a different method of

derivation. Otherwise his explanation regarding $\frac{dp}{dD_k}$ would have been placed earlier.

34. p. 96, line 15. $\frac{dp}{dD_k}$ is assumed small. That is, the effect on the price of increasing the product is assumed small per unit of product. This is not because D_k is small, although Cournot seems to say so.

35. p. 96. Equation (6) is derived with the aid of $p(1-n) - \phi'k p(D_k) = 0$, just as (3) on p. 91 was derived with the aid of $p - \phi'k(D_k) = 0$.

36. p. 97. Equation (7) should have "0" expressed as a lower limit in the integral, as in the case of the integrals below.

37. p. 98. The first equation is found, as usual, by the condition of maximum. We differentiate expression (9) on page 97, remembering that the differential coefficient of the integral is $\phi'k(D_k)$.

38. p. 101. In equations (1) and (2) it should not be forgotten that the F' is not a differential coefficient with respect to p_1 or p_2 , but with respect to $(m_1 p_1 + m_2 p_2)$; e.g., $F'(m_1 p_1 + m_2 p_2)$ in (1) is $\frac{dF(m_1 p_1 + m_2 p_2)}{d(m_1 p_1 + m_2 p_2)}$, and not $\frac{dF(m_1 p_1 + m_2 p_2)}{dp_1}$.

To derive equation (1) from the differential equation above it, $\frac{d(p_1 D_1)}{dp_1} = 0$, we observe that $\frac{d(p_1 D_1)}{dp_1} = D_1 + p_1 \frac{dD_1}{dp_1}$, and substitute for D_1 its value as given in equation (6) on page 100 and for $\frac{dD_1}{dp_1}$ its value $m_1 \frac{dF(m_1 p_1 + m_2 p_2)}{d(m_1 p_1 + m_2 p_2)}$ $\times \frac{d(m_1 p_1 + m_2 p_2)}{dp_1}$. The first of these two differential coefficients is $F'(m_1 p_1 + m_2 p_2)$. The second is found by performing the differentiation indicated, treating p_2 as a constant, and is evidently simply m_1 . With these substitutions and cancelling the common factor m_1 , we reach equation (1).

39. pp. 101, 102. Equation (1) gives the value of p_1 , which maximizes the profit of producer (1) for an assumed value of p_2 . The question arises, What effect will a change in the assumed value of p_2 have on the resulting value of p_1 ? That is, in equation (1) what is the relation between increments of p_2 and p_1 ? In short, what is $\frac{dp_1}{dp_2}$? According as $\frac{dp_1}{dp_2} > 0$ will an increase of p_2 produce an increase or a decrease of p_1 . Now, to obtain $\frac{dp_1}{dp_2}$, the rule is to

take the differential coefficient of the left member of (1) with respect to p_2 treating p_1 as constant, and again with respect to p_1 treating p_2 as constant, and then divide the first differential coefficient by the second, and prefix the minus sign. Proceeding thus, we find the differentiation with respect to p_2 gives $m_2 F'(p) + m_1 p_1 m_2 F''(p)$ (using p for $m_1 p_1 + m_2 p_2$ as per equation (a)), while that with respect to p_1 gives $2m_1 F'(p) + m_1^2 p_1 F''(p)$. Divide the former expression by the latter, prefix the minus sign, and put the result in place of $\frac{dp_1}{dp_2}$ in the inequality $\frac{dp_1}{dp_2} < 0$. Then strike out the factor $-\frac{m_2}{m_1}$, and

(as this factor is negative) reverse the signs of inequality. We shall then have: $\frac{F'(p) + m_1 p_1 F''(p)}{2F'(p) + m_1 p_1 F''(p)} < 0$. Substituting for $m_1 p_1$ its value as derived from equation (1), namely, $-\frac{F'(p)}{F''(p)}$, and clearing, we reach the required result as given at the top of p. 102.

40. p. 105. Equations (e₁) and (e₂) are derived by the same process as that explained in note 38.

41. p. 106. The first equation is derived from (b), p. 100.

42. p. 106, *first paragraph*. If $\phi'_1(D_1)$ is a constant, it signifies that the cost of each additional unit is the same. Cournot tacitly assumes, besides this, that the cost vanishes when the product vanishes, so that $\phi'_1(D_1)$ is the cost for *every* unit, and therefore, of course, the average cost for all units.

That is, $\phi'_1(D_1) = \frac{\phi(D_1)}{D_1}$, which may also be proved analytically thus:

We have given $\phi'_1(D_1) = \text{constant} = k$, or $\phi'_1(D_1)dD = kdD$. Integrating, we have $\phi_1(D_1) = kD_1 + C$. Since for $D_1 = 0$, $\phi(D_1) = 0$, we have $C = 0$. Hence $\frac{\phi(D_1)}{D_1} = k = \phi'_1(D_1)$.

It should be observed that the assumption $\phi_1(0) = 0$ is not often verified. Cournot seems to have ignored this fact in the present connection, though in another passage he brought it out distinctly (see p. 60, last four lines and ff.).

43. p. 106. Equation (f) is obtained by adding (e₁) and (e₂), p. 105, and applying (a), p. 100. The next two equations are found by adding and subtracting the two equations $m_1 p_1 + m_2 p_2 = p$, or equation (a), p. 100, and $m_1 p_1 - m_2 p_2 = \phi'_1(D_1) - \phi'_2(D_2)$, or the last equation on p. 105.

44. p. 106. Equation (f') is a form of (2), p. 57, or of (3), p. 61, it being remembered that $\phi(D)$ is now $\phi_1(D_1) + \phi_2(D_2)$, so that $\frac{d[\phi(D)]}{dD}$ is $\phi'_1(D_1) + \frac{dD_1}{dD} + \phi'_2(D_2) \frac{dD_2}{dD}$, and remembering that equations (b), p. 100, show the values of $\frac{dD_1}{dD}$ and $\frac{dD_2}{dD}$ to be respectively m_1 and m_2 .

45. p. 119. Equations (1) are same as (3), p. 91.

46. p. 119. Equation (2) stated that the home supply plus the foreign supply equals the home plus foreign demand.

47. p. 120. To obtain (4), write (2) in the form $\Omega_a(p_a + \delta) + \Omega_b(p_b + (\delta + \epsilon - \omega)) = F_a(p_a + \delta) + F_b(p_b + (\delta + \epsilon - \omega))$, expand by Taylor's theorem, and subtract the sum of equations (1), p. 119. The next formula is derived in like manner.

48. p. 122, § 70. The first equation is simply (2), p. 119, the primes being omitted.

49. p. 122, § 70. In the second formula ω is treated as an addition to ϵ , and δ as the resulting increment of p . The second formula is simply the first with $\epsilon + \omega$ for ϵ and $p + \delta$ for p .

50. p. 122. As already stated, equations (6) are incorrect. If the preceding equation be expanded by Taylor's theorem and the penultimate equa-

tion subtracted therefrom, we obtain $\delta\Omega'_a(p) + (\delta + u)\Omega'_b(p) = \delta F_a(p) + (\delta + u)F_b(p)$. Solving this with respect to δ , we obtain what ought to be the first equation of (6). But, instead of the parenthesis $(\epsilon + u)$, we shall find simply u . The true form of the second equation is now found by adding u to the result just obtained. This corrected equation will differ from that given in the book in not having the second term in the numerator, ϵ [...].

This serious error of Cournot in the derivation of (6) was evidently due to the habit, in applying Taylor's theorem, of dropping automatically the first term in each expansion instead of formally subtracting the previous equation. That is, Cournot, instead of subtracting the first equation in § 70 from the expansion of the second, virtually subtracted $\Omega_a(p) + \Omega_b(p) = F_a(p) + F_b(p)$, which is not a true equation.

51. p. 123. "1" should now read "... and numerically smaller than u ; i.e., the tax will always cause the commodity to fall in the exporting market by a quantity which will *always* be smaller than the tax." The reason for this inequality is that the fraction on the right member of the first equation of (6) is a proper fraction, for the denominator exceeds the numerator, containing, as it does, all the terms which the numerator contains, and others besides; and all the terms are positive. "2" should read " $\delta + u$ is *always* positive and less than u ," a conclusion involved in the corrected form of the second equation of (6).

52. p. 123, 5th paragraph, line 4. It is not necessary to consider two cases. In either case δ is positive and numerically less than u . Thus the article must rise on the exporting market, and, $\delta + u$ being negative, must fall on the importing market. δ has no relation to ϵ .

53. p. 125. Equation (7) holds true, even if ϵ is not a small quantity, like δ and u . If ϵ is small, its presence in (7) is superfluous. In deriving (7) from the preceding formula, Cournot evidently called, e.g., $\Omega_b(p + \delta + \epsilon - u)$ equal to $\Omega_b(p + \epsilon) + (\delta - u)\Omega'_b(p + \epsilon)$ (applying Taylor's theorem in such a way as to make $\delta - u$ the increment of $p + \epsilon$); while, if ϵ is small, he could have called it equal to $\Omega_b(p) + (\delta + \epsilon - u)\Omega'_b(p)$ (regarding $\delta + \epsilon - u$ as an increment of p). This remark will serve to reconcile Cournot's result with what the student may obtain in attempting to follow him.

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THE
QUARTERLY JOURNAL
OF
ECONOMICS

APRIL, 1898

THE FRENCH CANADIANS IN NEW ENGLAND.

THE early history of the French Canadians in New England is obscure. According to Rev. E. Hamon,* a considerable number had settled there before 1776, and some served in the American army during the Revolutionary War, receiving from Congress, in part payment for their services, grants of land in the vicinity of Lake Champlain. After the rebellion of 1837 many French Canadians sought refuge in the mountainous regions of northern and western Vermont. No statistics for this early period appear to be obtainable; but it is probable that the population was small, and its growth for many years inappreciable. It was not until 1851 that the first French Catholic priest settled at Burlington, systematic efforts to organize and build up French parishes beginning soon

* *Les Canadiens-Français de la Nouvelle-Angleterre* (Quebec, 1891). The book falls into two parts, the first being an elaborate discussion of the condition and prospects of the French Canadians in New England, and the second giving a detailed history of the various French Canadian parishes, with invaluable statistical data. A garbled and imperfect translation of the first part has been printed as an "anti-Catholic" tract. Father Hamon's volume, the work of an ardent but broad-minded Jesuit, has been a mine whose treasures later writers have repeatedly appropriated.

after, in 1853, with the elevation of Mgr. Louis de Goës-briand to the bishopric of Vermont.

The great movement of French Canadian emigration to New England began shortly after the close of the Civil War, the chief determining causes being the demand for labor created by the growth of manufactures, and the relatively high wages obtainable by comparatively unskilled workmen. Before the enactment of the contract labor law, probably the larger part of the French Canadians came at the solicitation and under the charge of representatives of manufacturing corporations. Advertisements of various kinds, setting forth the advantages to be had in New England communities, were scattered widely over the Province of Quebec, and were re-enforced by the shrewd activity of the immigration agents. It is not surprising that, to the average Canadian *habitant*, the prospect should have appeared irresistibly attractive. His family was large, his farm remote, his life laborious. Taxes and parish charges pressed heavily upon him, albeit his faith in the supreme wisdom and need of the Church was little shaken. Taught by the Church that he who brought many children into the world did God service, the utter disparity between the number to be fed and clothed and the wherewithal to feed and clothe them became every year more apparent. To achieve even a meagre living was difficult: to do more was impossible. Yet he knew no other life, and was cut off, by situation, poverty, and ignorance, from nearly every opportunity for betterment.

But the assurance of steady employment, not laborious, and at wages which to many must have seemed almost fabulous, was a tangible and irresistible appeal. The factory offered a place, not for himself alone, but also for his wife and older children. The more children he had, the larger the sum total of the family income. So the French Canadians began to come, at first in small parties of young

men and women, then by families and companies, then by hundreds and thousands. Those who came first, under contract, sent back enthusiastic accounts of the new country, together with drafts for more money than the family at home had ever seen. Others followed in larger numbers and likewise under contract; and they, too, found employment certain, living cheap, and the opportunity for saving considerable. The prohibition of further contracts with mill agents did not stop, though it somewhat checked, the flow, those who came taking the chances, for a while not serious, of finding work, as their relatives and friends had found it before them. Such, in brief, with only unimportant variations in detail, is the history of the French Canadian immigration for every manufacturing centre in New England in which they are numerous.

The presence of this large and increasing French Canadian element, its solidarity, and the fact that in certain manufacturing towns and in certain industries it has largely dispossessed not only the native American workmen, but the foreigners of other nationalities as well, have not failed to receive attention from many writers interested in economic and social matters, and particularly from some who affect to see, in the increase of the foreign population, sure signs of moral and political decay. Unfortunately for the purposes of scientific inquiry, any attempt at a thorough investigation of the subject is greatly hampered by the dearth of accurate statistical data. It may be said at once that, for the period prior to 1890, reliable statistics, save at one point, are not to be had. Some incautious statements regarding the French Canadians, in the report of the Massachusetts Bureau of Statistics of Labor for 1881, called forth a vigorous protest, and led to a public hearing, a full report of which forms part of the report of the Bureau for 1882. A large amount of interesting matter bearing on the condition of

the French Canadians in New England was presented at the hearing, together with more complete statistics than are available, so far as I know, elsewhere. It does not appear, however, that entire accuracy or completeness was claimed for them; while much of the data professedly rests on estimates. Father Hamon's book, though indispensable, deals almost wholly, so far as statistics go, with the ecclesiastical phases of the subject. Until 1890 the French Canadian population was not separately returned by the United States census. Canada, both English and French, and Newfoundland were combined for statistical purposes, as they still are in the statistics of immigration; and since the English-speaking Canadian population in this country has for many years been large, and in 1890 outnumbered the French Canadians more than two to one, comparisons or conclusions based upon the earlier census returns would be of little value.

The best idea of the rapid growth of the French Canadian population between 1865 and 1890, and its wide dispersion, is to be gathered from an examination of the list of French Catholic parishes, with the dates of their organization. The following table shows the number of such parishes formed in each of the New England States for each of the years indicated, together with the number of mixed parishes in 1890.* Of the mixed parishes a large proportion are predominantly French.

The distribution of parishes, as shown in the above table, corresponds roughly to the relative importance of the manufacturing interests of the different States. The figures, however, indicate some interesting conditions. No

* The table is based on data given by Hamon, *op. cit.*, pp. 181, 228, 232, 310, 312, 346, 350, 361, 366, 396, 400, 418, 422, 450. The parishes of Burlington and Swanton, Vt., organized in 1850 and 1856, respectively, are not included, nor twelve parishes in the Madawaska region of Northern Maine, composed almost entirely of Acadian French. The Acadian French, found chiefly in the extreme northern parts of Maine, along the New Brunswick border, appear not to have been greatly affected by the emigration from the Province of Quebec, although French Canadians are doubtless numerous among them.

	Me.	N.H.	Vt.	Mass.	R.I.	Conn.	Total.
1868	-	-	1	1	-	-	2
1869	1	-	2	3	-	-	6
1870	-	-	-	3	-	-	3
1871	1	-	1	5	-	-	7
1872	1	2	1	2	1	-	7
1873	-	-	-	1	2	-	3
1874	-	-	-	-	1	-	1
1875	-	-	-	2	1	-	3
1877	-	1	-	1	-	-	2
1878	-	-	-	-	2	-	2
1880	-	1	-	-	-	1	2
1881	-	2	-	1	-	-	3
1882	-	-	-	-	1	-	1
1883	-	-	-	1	-	-	1
1884	-	2	-	4	-	1	7
1885	-	-	-	4	-	-	4
1886	-	-	-	3	-	-	3
1887	-	1	-	1	-	1	3
1888	1	-	-	1	-	-	2
1889	-	-	-	-	-	2	2
1890	1	1	1	7	-	-	10
Total	5	10	6	40	8	5	74
Mixed Parishes	6	13	15	13	5	26	78
Total	11	23	21	53	13	31	152

exclusively French parish was organized in Vermont between 1872 and 1890, nor in Maine between 1872 and 1888, although at the end of the period there were fifteen mixed parishes in the former State and six in the latter. The dispersion in Rhode Island seems to have been virtually complete in 1882, although five mixed parishes were reported in 1890. Connecticut appears to have been reached last of all, the first French Canadian parish in that State not having been organized until 1880, at which date thirty-six parishes were in existence elsewhere in New England. The distinctive feature in Connecticut, however, is the great preponderance of mixed parishes, indicating a population not yet largely massed in manu-

facturing centres or predominating over other classes of foreigners. Massachusetts and New Hampshire show the most steady growth, the greatest gains in the former State being from 1868 to 1877 and from 1883 to 1890. For all the States the years 1873-83 show the smallest proportional gains. It should be remembered, however, that a corresponding increase in the number of parishes in later years is not to be expected, the existing parishes, many of which had but small beginnings, growing in size and importance as the French Canadian population augmented. A number of places have more than one parish, among them Manchester and Nashua, N.H., Pawtucket, R.I., and Fall River, Worcester, Fitchburg, Holyoke, Lowell, and New Bedford, Mass. The relative rank of the States, as regards the number of parishes in 1890, is shown in the following table:—

<i>French Parishes.</i>	<i>Mixed Parishes.</i>	<i>Total.</i>
1. Massachusetts.	1. Connecticut.	1. Massachusetts.
2. New Hampshire.	2. Vermont.	2. Connecticut.
3. Rhode Island.	{ 3. New Hampshire.	3. New Hampshire.
4. Vermont.	{ 4. Massachusetts.	4. Vermont.
{ 5. Connecticut.	5. Maine.	5. Rhode Island.
{ 6. Maine.	6. Rhode Island.	6. Maine.

As has been said, an enumeration of the French Canadian population of the United States was first attempted in the census of 1890. The returns showed 537,298 French Canadians in the United States, of whom 331,804 were in New England. That the emigration from Canada to this country is by no means predominantly French appears from the fact that the latter constitute but 31.59 per cent. of the whole number of persons of Canadian extraction reported by the census. The French population of Canada, according to the Canadian census of 1891, was 1,404,974,* or 29.07 per cent. of the total population of the

* Objections were made to this figure, and the census does not claim entire accuracy for the enumeration.

Dominion. As compared, therefore, with the French Canadian population at home, the number who have come to the United States is remarkably large. How large it is in comparison with the total population of the New England States, however, may be seen from the following table:—

	<i>Total Population.</i>	<i>French Canadian</i>
Maine	661,086	38,556
New Hampshire	376,530	48,470
Vermont	332,422	32,291
Massachusetts	2,239,943	152,891
Rhode Island	345,506	34,775
Connecticut	746,258	24,821
Total	4,701,745	331,804

These figures show a French Canadian population of a fraction more than 7 per cent. of the total population of New England. In two States only, New Hampshire and Rhode Island, is it as high as 10 per cent. A comparison with the total foreign-born population gives the following results (the French Canadian column giving the numbers of those having one or both parents foreign-born):—

	<i>Total Foreign-born.</i>	<i>French Canadian.</i>	<i>Per cent.</i>
Maine	150,713	37,776	25.06
New Hampshire	121,101	47,719	39.40
Vermont	104,337	31,343	30.04
Massachusetts	1,253,926	149,046	11.89
Rhode Island	199,969	34,225	17.12
Connecticut	374,714	24,337	6.50
Total	2,204,760	324,446	14.71

In this table, as in the preceding, the smallness of the result is significant. Not only are the French Canadians as yet but a small part of the total population of New England, but they form only a trifle more than one-seventh of the total foreign-born population. Relatively either to the total population or to the whole number of

the foreign-born, it is clear that the French Canadian "invasion" of New England has as yet attained but very moderate proportions. The dangers attending the presence among us of this class of foreigners, if dangers there are, must apparently be ascribed to other causes than either their absolute or their relative numbers.

Quite the largest part of the French Canadian population is to be found grouped together in cities and towns. Drawn to the manufacturing centres at the beginning by the influences already referred to, and finding there employment not only steady and remunerative, but also in agreeable contrast to their former occupations in Canada, they have continued to mass themselves in the neighbourhood of factories and mills, and show as yet little tendency to spread themselves widely over the country. Comparatively few are to be found along the seashore or among the mountains. Other forces, also, have operated to keep them together, among which their strong attachment to their religion, and their essentially social nature, are, perhaps, the most prominent. Taking the six New England States as a whole, the largest proportion of French Canadians will be found in the smaller manufacturing towns, in a number of which they comprise almost the whole of the foreign element. It is to be regretted that data for a satisfactory determination of the numbers and growth of this urban population are not obtainable. In the three tables following are presented figures which will serve for purposes of practical comparison, although but one of them (the second) rests on such data that statistical accuracy can be claimed. The first table gives the French Canadian population of twenty-nine cities and towns, from data collected by Mr. F. Gagnon, editor of *Le Travailleur*, a French paper published at Worcester, Mass., and presented at the hearing given by the Massachusetts Bureau of Statistics of Labor in 1881, already referred to. The localities selected were, according to Mr.

Gagnon, those "where Canadians are to be found in great numbers." *

<i>Places.</i>	<i>Population.</i>	<i>Places.</i>	<i>Population.</i>	
<i>Maine.</i>			<i>Massachusetts,—continued.</i>	
Biddeford	6,500	Millbury	1,300	
Lewiston	5,000	New Bedford	1,200	
Waterville	1,625	Northampton	1,360	
<i>New Hampshire.</i>			North Brookfield	
Great Falls	2,500	Southbridge	3,100	
Nashua	3,000	Spencer	3,450	
Rochester	600	Webster	2,400	
<i>Massachusetts.</i>			Worcester	
Fall River	11,000	Rhode Island.	4,327	
Fitchburg	400	Manville	1,400	
Gardner	766	Woonsocket	7,000	
Haverhill	3,200	<i>Connecticut.</i>		
Holyoke	6,500	Baltic	1,925	
Hudson	450	Grosvenordale	2,400	
Indian Orchard	1,653	Meriden	1,150	
Lawrence	3,500	Putnam	1,600	
Manchaug	1,047	Total	81,153	

It will be noted that Vermont does not appear in the above table.

The next table gives the French Canadian population

<i>Places.</i>	<i>Population.</i>	<i>Places.</i>	<i>Population.</i>	
<i>Maine.</i>			<i>Massachusetts,—continued.</i>	
Portland	261	New Bedford	4,976	
<i>New Hampshire.</i>			Salem	
Manchester	14,081	Somerville	3,462	
<i>Massachusetts.</i>			Springfield	
Boston	2,623	Taunton	3,490	
Brockton	499	Worcester	1,875	
Cambridge	1,923	<i>Rhode Island.</i>		
Chelsea	92	Pawtucket	7,413	
Fall River	18,585	Providence	2,089	
Haverhill	3,098	<i>Connecticut.</i>		
Holyoke	9,530	Bridgeport	2,638	
Lawrence	4,548	Hartford	431	
Lowell	15,332	New Haven	561	
Lynn	1,302	Waterbury	315	
		Total	1,567	
			101,226	

* *Thirteenth Annual Report of the Massachusetts Bureau of Statistics of Labor* (1882), p. 18.

of cities of 25,000 inhabitants or over, according to the census of 1890.* Statistics for places of less than 25,000 inhabitants are not given by the census.

The figures in the third table, showing the estimated French Canadian population of thirty-seven cities and towns in 1897, were secured by means of circular letters

<i>Places.</i>	<i>Population.</i>	<i>Places.</i>	<i>Population.</i>		
<i>Maine.</i>					
Biddeford	10,000	Lowell	21,500		
Brewer	250	New Bedford	15,000		
Brunswick	2,500	North Adams	5,000		
Fairfield	600	Northampton	1,800		
Lewiston	10,960	Southbridge	5,500		
Saco	1,000	Spencer	4,000		
Waterville	3,500	Springfield	5,600		
<i>New Hampshire.</i>					
Manchester	18,000	Taunton	1,500		
Nashua	8,000	Waltham	1,000		
<i>Vermont.</i>					
Burlington	5,000	Woburn	500		
Rutland	1,500	Worcester	13,000		
Winooski Falls	2,900	<i>Rhode Island.</i>			
<i>Massachusetts.</i>					
Boston	3,200	Central Falls	5,000		
Brockton	800	Manville	4,000		
Fall River	30,000	Pawtucket	4,800		
Fitchburg	6,000	Woonsocket	16,000		
Holyoke	15,000	<i>Connecticut.</i>			
Leominster	1,250	Bridgeport	800		
		Hartford	1,500		
		New Haven	1,200		
		Waterbury	3,500		
		Total	<u>231,660</u>		

of inquiry addressed to local officials, prominent French Canadian citizens, and parish priests. The list is, of course, incomplete, many of the officials addressed being either unable or unwilling to give the information desired. With few exceptions, however, the replies received from French Canadian correspondents were evidently the result of careful investigation. Where different returns were received from the same locality, the lowest figures have

* Compiled from Tables 52, 55, 56, 61, and 62 of the *Report on Population*, Part I.

been taken. Most, if not all, of the returns rest, doubtless, upon estimates rather than careful enumeration. As the table stands, however, it is probably a fairly correct exhibit of the French Canadian population of the places named at the present time.

From the foregoing tables it appears that in 1890 less than a third of the French Canadians in New England were found in places of 25,000 population or over, and that, of the number so grouped, 74,465, or nearly three-fourths, were found in the seven cities of Manchester, Fall River, Holyoke, Lawrence, Lowell, New Bedford, and Worcester. Portland, Brockton, Chelsea, and Somerville had no important French element; nor had any of the large Connecticut cities except Waterbury. In Boston the French were less than 1 per cent. of the foreign-born population in 1890. For the whole of the United States in the same year the French Canadians having one or both parents foreign-born formed .82 per cent. of the whole number of foreign-born. These figures seem to confirm the view that it is not the large cities, as such, that attract this class of foreigners, but the manufacturing centres, and particularly those mainly given over to the textile industries. Whether at the present time the proportionate numbers in the smaller places are as great as they were in 1890 is, perhaps, less certain. Of the 281,660 reported from thirty-seven places in 1897, 97,760, or 42.15 per cent., were in cities and towns which in 1890 had less than 25,000 population each. It should be noted, however, that nine cities, with a French Canadian population of 17,859, which appear in the table for 1890, made no report in 1897.

How far the data at hand will justify any very positive conclusions as to the growth of the French Canadian population, especially at the present time, is not entirely clear. Some light will be thrown upon the matter by combining in one exhibit the places from which returns are available for 1890 and 1897.

	<i>French Canadian Population, 1890.</i>	<i>French Canadian Population, 1897.</i>
Manchester, N.H.	14,081	18,000
Boston, Mass.	2,623	3,200
Brockton, Mass.	499	800
Fall River, Mass.	18,585	30,000
Holyoke, Mass.	9,530	15,000
Lowell, Mass.	15,332	21,500
New Bedford, Mass.	4,976	15,000
Springfield, Mass.	3,490	5,600
Taunton, Mass.	1,875	1,500
Worcester, Mass.	7,413	18,000
Pawtucket, R.I.	2,089	4,800
Bridgeport, Conn.	431	800
Hartford, Conn.	561	1,500
New Haven, Conn.	315	1,200
Waterbury, Conn.	1,567	3,500
Total.	83,367	135,400

The fifteen cities in the table just presented show a gain of 52,033, or 62.41 per cent., between 1890 and 1897. Making liberal allowance for overestimates in the figures for the latter year, the indication for these localities is of an extraordinary increase. Moreover, not only is the strong disposition of the French Canadians to congregate in the industrial centres clearly shown, but it is also apparent that the larger populations grow the fastest. Manchester, Lewiston, Fall River, Lowell, Holyoke, New Bedford, and Worcester are familiar names in the Province of Quebec. They stand for the greatest achievements of the race in the United States, the longest steps toward the realization of that greater New France of which some have dreamed; and they naturally attract to themselves the largest proportion of the immigrants who now come. So it has been in the past, and so it is still.

Nothing is more common in communities where the French Canadians are numerous than to hear it asserted with positiveness that they are multiplying with great rapidity, the natural fecundity of the race, together with more favorable conditions for survival in New Eng-

land than in the Province of Quebec, being adduced as proofs. There can, I think, be no doubt that for a number of years the French Canadian population among us grew apace. While the immigration was at its height, from 1875 to 1890, those who came were numbered by thousands; and, as they took possession of one locality after another, and year by year waxed greater rather than less, it may well have seemed to some that the movement thus inaugurated would before long sweep the most of French Canada into the lap of New England. In the early years this great addition to the population consisted, naturally, almost entirely of the foreign-born; but, as the number of families increased, the natural growth of population began to make itself felt, so that, while the great majority of the French Canadians were still of foreign birth, the proportion of such rapidly decreased. Of the 331,804 French Canadians in New England in 1890, 98,459, or more than 28 per cent., were born in the United States.

In my opinion, however, there is good reason for thinking that the high rate at which, for a number of years, the French Canadian population of New England increased is no longer being maintained, and that the present growth presents no extraordinary features. The grounds for this opinion are mainly three. In the first place, immigration in the last few years has greatly declined. There can be no question that the current has ceased to flow strongly from the Province of Quebec to any part of the New England States. Solicited emigration, as has already been observed, has ceased altogether; and the labor market is well supplied. Ten or fifteen years ago the Grand Trunk, Maine Central, Boston & Maine, and Central Vermont Railroads handled the French Canadian traffic in carload lots: to-day, on these same lines, one meets occasional families or small parties. For the thirty-seven cities and towns from which reports were received in

1897, as shown in a preceding table, the total number of estimated annual arrivals in the last two or three years, taking the highest estimate in each case, was only 3,750; taking the lowest estimate in each case, 2,800. The annual arrivals at Fall River are given at from 200 to 500; at Manchester, 300 to 500; Worcester, 200; Lowell, 300; New Bedford, 400 in 1896; Holyoke, "a few hundreds"; Pawtucket, 300; New Haven, 50 to 100; Springfield, 150 to 200; Hartford, 25 to 50; North Adams, 500 in each of the years 1895 and 1896. Ten cities and towns, having in 1897 an estimated French Canadian population of 13,350, report either "very few" arrivals or "none." Available data seem clearly to indicate that the French Canadian immigration has largely spent its force, and that for the immediate future, if not permanently, the volume will not be greater than might normally be looked for in view of the numbers already here and the nearness of Canada to the United States.

In the second place, while the French Canadians are undoubtedly a prolific race, it is open to question whether the natural growth of population among them is noticeably greater than among other races which form parts of our composite American stock. From time to time we are reminded of the extraordinary size of French Canadian families, with their twelve, fifteen, and twenty children. That such cases are not wholly exceptional in the Province of Quebec there is sufficient proof, but I fancy that one would have to search widely and carefully to find many such families in New England. It is true that the French Canadians marry young, and that the birth-rate is high; but it is equally true that the death-rate, particularly among children under five years of age, is also high. Nowhere, indeed, does the law of the survival of the fittest work more obviously or more ruthlessly than among this very class of our foreign population. And there is no sufficient reason why it should not so work. As we shall

see later, neither the remuneration of the French Canadians nor yet their standard of living is higher than that of others in similar occupations. A majority of them, especially in the larger manufacturing cities, live in crowded quarters, not seldom amid unfavorable sanitary and moral conditions. Precisely the same causes which operate to keep down the numbers of the lower class of laborers everywhere — lessened initial vitality due to excessive numbers, poor and insufficient food and clothing, bad air, disease, neglect — are active among the French Canadians; to which should be added, as a factor of some consequence, the widely prevalent use of tobacco among children of tender age. There is no need of argument to prove that the inherent vitality and permanent productiveness of a race are shown, not by the size of the birth-rate, but by the excess of births over deaths; not by the number brought into the world, but by the number who come to maturity. Tested by this standard, it seems improbable that the French Canadians, if left to themselves, will exhibit a natural increase of population materially greater than that of other races similarly situated.*

Thirdly, even though it were true that the French Canadians are more prolific than other races in the sense of showing a greater proportionate increase in the adult population, any such natural tendency among them would be likely to be checked to some extent by intermarriage with other nationalities. Now, while it is a fact that the French Canadians have been remarkably successful in preserving the purity of their blood, it is also the case that,

* In an interesting article on "The Growth of the French Canadian Race in America," in the *Annals of the American Academy of Political and Social Science*, September, 1896, Professor John Davidson has shown that the rate of increase of the French in Canada is not abnormal, and that "after the first year the proportion living at any given age varies little from the proportion among other Canadians." Taking the census decades from 1851 to 1891, only in the latter year was the average size of families greater in Quebec than the average for all Canada, and in both 1881 and 1891 it was considerably exceeded by the average in Prince Edward Island, where the French are comparatively few.

among those now in the United States, intermarriage with other racial stocks is not uncommon, and is, on the whole, increasing. On this point some interesting statistics were gathered by the census of 1890. A classification of the French Canadian population of New England, according as one or both parents were born in the United States, Canada, or some other foreign country, shows the following results:—

	Total French Canadian population.	Both parents French Canadian, born in Canada.	French Canadian fathers.		French Canadian mothers.	
			Mothers born in the United States.	Mothers born in some other foreign country.	Fathers born in the United States.	Fathers born in some other foreign country.
Maine	38,556	32,925	2,600	200	2,251	580
New Hampshire	48,470	44,853	1,702	374	1,164	377
Vermont	32,291	23,521	4,968	442	2,854	506
Massachusetts .	152,891	136,412	7,595	1,906	5,039	1,939
Rhode Island .	34,775	32,235	1,097	196	893	354
Connecticut . .	24,821	22,592	1,024	261	721	223
Total	331,804	292,538	18,986	3,379	12,922	3,979

The table on page 261 shows the principal combinations of French Canadian and foreign parentage.

These facts seem to show no invincible reluctance on the part of the French Canadians to marrying outside of their own race, notwithstanding the obstacles which language and religion throw in the way of such unions. Of the combinations shown in the preceding table, that of the French Canadians and the Irish seems the most remarkable and the one least to be expected. Whether an explanation is to be found in the identity of religious affilia-

	F. C. and Canadian English.	F. C. and Irish.	F. C. and French.	F. C. and English.	F. C. and German.
Maine	476	85	80	86	5
New Hampshire .	342	143	105	76	21
Vermont	281	276	167	119	19
Massachusetts .	1,129	1,209	538	503	78
Rhode Island . .	202	141	95	54	22
Connecticut . . .	94	188	93	49	26
Total	2,524	2,042	1,078	887	171

tion is somewhat doubtful, the history of Catholic parishes of mixed French and Irish recording numerous instances of serious clashing between the two races. The small number of marriages between the French Canadians and Germans is, doubtless, due in part to the relatively small number of the latter in New England, the number being considerably larger in Illinois, Michigan, Wisconsin, and Minnesota, where the German population is more numerous. In general, it may be said that, while the French Canadians prefer to marry among their own people, mixed marriages are not infrequent, the English-speaking Canadians, Irish, French, and English being the foreign elements with which alliances are most readily formed.

What has been said justifies, I think, the conclusion that the maintenance among us of a distinct French Canadian element, largely of one common stock, is not to be looked for. The falling off of immigration, the absence of any unusual rate of natural increase, and the tendency to mixed marriages, all point in that direction. Partaking in as full measure as their circumstances allow of the opportunities and advantages of American life, the impulse to adopt American ways, and, in consequence, the Ameri-

can point of view, is not likely to be permanently resisted ; while the disposition to remain by themselves, natural enough in the early years of sojourn in a foreign land, is decidedly weakened by increased familiarity with the English language and a widening range of permanent interests. Such religious and social influences as are brought to bear to induce them to maintain their solidarity, although factors of great importance in determining the probable future of the race in New England, are after all, as we shall see, essentially forces operating from without, appealing, for the most part, to no deeper motives than pride of place and name. To regard the French Canadians as a permanently insoluble element in New England society is, I am convinced, at once to misinterpret and to disparage them.

Turning now to the question of occupations, we find that the French Canadians are still, as they have always been in New England, predominantly an operative class. While the circumstances under which they began to come have materially changed, the field in which they then found assured and remunerative employment has continued to attract them more strongly than any other. According to the census of 1890, 58.17 per cent. of the French Canadians engaged in gainful occupations in the United States were found in manufacturing and mechanical industries, this percentage being higher than for any other race. Various forms of domestic and personal service engaged 18.1 per cent.; agriculture, fishing, and mining, 13.87 per cent.; trade and transporation, 8.73 per cent.; and professional occupations, 1.13 per cent. The proportion of females employed was very high. The number of foreign-born French Canadians in gainful occupations in New England in 1890, according to the classification adopted by the census, was as follows:—

	ALL OCCUPATIONS.		I. Agriculture, fish- ing, and mining.		II. Profes- sions.		III. Domestic and personal service.		IV. Trade and transpor- tation.		V. Manufac- tures.	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
	Me.	9,100	4,350	962	18	52	34	2,149	812	955	41	4,962	3,945
N.H.	13,687	6,946	1,163	4	78	40	2,603	409	1,413	73	8,430	6,420
Vt.	6,551	725	2,136	16	50	47	1,498	396	548	8	2,319	338
Mass.	39,134	15,647	2,243	12	323	128	6,346	1,260	4,258	252	25,964	14,000
R.I.	8,995	4,217	388	1	73	35	1,515	119	952	36	6,068	4,026
Conn.	6,064	2,413	522	3	45	20	738	117	538	33	4,221	2,241
Total	83,531	34,298	7,424	54	620	299	14,849	2,543	8,664	442	51,964	30,980

The next table shows, in connection with the total French Canadian population of each State, the totals for all occupations and for each of the five classes of occupations as above, without distinction of sex:—

	Total F.C. popula- tion.	All occu- pations.	I.	II.	III.	IV.	V.
Maine	38,556	13,450	1,000	86	2,461	996	8,907
New Hampshire	48,470	20,633	1,167	118	3,012	1,493	14,850
Vermont	33,391	7,376	2,152	97	1,824	556	2,647
Massachusetts .	152,891	54,781	2,257	446	7,606	4,510	39,964
Rhode Island .	34,775	13,212	389	107	1,634	988	10,094
Connecticut .	24,821	8,477	525	65	855	570	6,463
Total	331,804	117,829	7,488	919	17,302	9,106	82,924

These figures show that rather more than half of the French Canadian population of New England in 1890 were engaged in gainful occupations of various sorts. The range of employments is now wide, and tends to increase as the population becomes more stable, and the

comparative advantages of different occupations are more clearly perceived. To a considerable extent, the French Canadians now have their own physicians, lawyers, dentists, and, of course, priests. Many are skilled mechanics, especially carpenters, painters, plumbers, masons, machinists, and engineers, while a respectable number are builders and contractors. Nearly all branches of trade are numerously represented, particularly such as handle the necessities and more common conveniences of life. Large establishments and wholesale houses, however, are infrequent. Most large shops, in communities where the French Canadians are numerous, find it to their advantage to employ French clerks or attendants, as well as American. The French Canadians do not seem to like the sea, and very few of them are sailors or fishermen; but they are found everywhere in the logging camps and in rafting operations, especially in Maine. French Canadian policemen, firemen, and watchmen are common. Farming is not a favorite occupation, although many have taken up farms in remote places, and by industry and frugality have attained fair success. In some parts of Vermont one hears complaint of the extent to which they have taken possession of old and run-down farms, and established themselves where before scarce any foreigners could be found. Many, of course, are common laborers, or eke out an uncertain livelihood at such work as requires the minimum of intelligence and skill. The women, among whom work is honorable, are frequently found assisting their husbands or brothers in shops and stores, while entering largely into the skilled occupations common to their sex. They are not, however, as a rule, very satisfactory as domestic servants, comparing unfavorably with the Irish in this respect.

It is as operatives, however, that the French Canadians are most commonly thought of, and as such that they are most in evidence. As the statistics show, 82,924, or

over 70 per cent. of the total number employed in New England in 1890, were in manufacturing and mechanical industries; and, of this number, quite the largest proportion were to be found in factories and mills. As we have seen, there are good historical reasons for this; but much is also attributable to the nature of the workman himself. From the standpoint of the employer, the French Canadian has many of the qualities of an ideal "hand." He is quick to learn, active and deft in his movements. He is contented with his work, and, usually, with his wages; and he does not expect undue consideration. Docility is one of his most marked traits. He is not over-energetic or ambitious. His main concern is to make a living for himself and his family, and, if that seems to have been attained, he is little troubled by restless eagerness to be doing something higher than that in which he is at present engaged. Above all, he is reluctant, as compared with the Irish, to join labor unions, and is loath to strike. His easy satisfaction with moderate proficiency partly accounts for the fact, reported by many mill agents, that comparatively few become competent and reliable foremen or overseers, and that the French Canadians are likely to work best under the supervision of some one not of their own race.

How far, however, the French Canadians constitute at the present time a distinct factor of much importance in the industrial world of New England, is a question on which it is not altogether easy to pass a confident judgment. It is certain that for a time, when contract immigration was at its height, their numbers and their necessities tended unmistakably to lower wages in the industries in which they were engaged. They were willing to work for less than others, and for that very reason were imported. But I doubt very much if this is as true now as it was formerly. The general testimony of manufacturers, so far as I have been able to obtain it, as well as of many

prominent French Canadians and local officials, is that the wages of French Canadian operatives are now practically the same as the wages of others, for the same kind and grade of work; and, while this is not the same thing as saying that wages have not declined, any very noticeable decrease due to the presence of this particular class of foreigners would be likely to be remarked by those correspondents plainly hostile to the French Canadians. Moreover, although the French Canadian immigration has been large and rapid, it is only a small part of the total foreign immigration which has poured into New England in the last twenty years. Of the cities of 25,000 population or over, noted in a preceding table, Manchester, N.H., was the only one in which in 1890 the French Canadians outnumbered the Irish, while in Fall River and New Bedford the numbers of the two races were nearly equal. Only in Maine and New Hampshire did the number of persons having either father or mother French Canadian born exceed the number of those having one or both parents born in Ireland. There would seem to be no reason why any general effect upon wages should be attributed to the presence of the one class rather than the other. As a matter of fact, of course, wages are the result of the operation of competitive forces, little regardful of race lines; and, even if the French Canadians were, from any cause, willing to work permanently for lower wages, their numbers are too small to enable them to fix a standard, except, perhaps, for some small community in which they preponderate, and where outside competition is not effective. Of 344,610 persons employed in manufacturing and mechanical industries in New England in 1890, only 82,924 were French Canadians.

Where the French Canadians have the advantage of other classes of foreigners is in their ability to live cheaply and, according to their standards, comfortably on a small

income, and at the same time save money. To an unusual degree they have the virtues, not too common among the working classes in America, of industry, frugality, and thrift. In spite of moderate ambitions they are not lazy, but prefer to work, if work can be had. They live at a minimum, spend less than they earn, and save the difference. Savings-bank deposits, large holdings of real estate, and extensive ecclesiastical properties, not to mention the large sums formerly sent to Canada, offer abundant testimony to their "effective desire of accumulation." But the French Canadian is not thereby disposed to work for less. He merely saves more. It is in his evident contentment and prosperity, his command of financial resources as the fruit of economical living, that he most frequently incurs the dislike of his fellow-workmen, and hears his race dubbed "the Chinese of the East." Rarely is he an object of public charity or poor relief. It is from his own earnings that he pays his physician, provides food, clothing, and shelter for his family, and buries his dead.

I am unable to think, therefore, that the presence of the Canadian French any longer gives to employers advantages which they would not otherwise possess, or constitutes to the laboring classes in New England a menace and a threat. The inevitable tendency to uniformity of condition makes strongly against the perpetuation of incidental distinctions. Employers hire men, not races. Certainly, in comparison with many aliens who throw themselves upon the hospitality of the United States, the French Canadians represent a relatively high grade of intelligence and morality; and, while they have yet to demonstrate their permanent worth as citizens, industrially they do not seem to be playing either an objectionable or an unworthy part.

For a number of years after the French Canadians began to come to New England, the permanency of their stay was generally regarded as an open question, with the

indications pointing to a negative answer. Certain it is that the larger part of the first arrivals showed little disposition to make permanent homes in "the States." Driven by poverty at home to seek employment abroad, most of them stayed only long enough to save a few hundred dollars, and then returned to Canada. So there were to be found along the main lines of travel two well-defined movements of population: one from the Province of Quebec to New England; and the other, somewhat smaller and less uniform, from New England back to Quebec. With every energy bent to the accomplishment of the one object of saving the largest possible amount of money in the least time, the French Canadians not only accepted employment wherever it was to be had and on whatever terms, but lived often in a manner little adapted to conciliate their English-speaking neighbors. It was essentially a shifting population, with scarce any appearance of permanence. The amount of money sent to Canada from the manufacturing towns of New England was very great, and formed another cause of the ill-will with which these aliens were regarded. Perhaps nothing illustrates better the marked change which has taken place in the status of the French Canadians than the almost complete transformation at both of these points. Very few of the French now return to Canada to stay, or even look forward to such a possibility; and the amount of money now sent out of the country, while considerable, is very small in comparison with former figures.

Among the surest indications of a disposition to permanency in a foreign population are, first, the increased number of real estate owners, and, second, the number of voters. On neither of these points, so far as the French Canadians are concerned, does it seem practicable to obtain statistics at once accurate and complete; but such figures as are to be had are in the highest degree instructive. The thirty-seven cities and towns from which

returns were received in 1897 reported 7,409 French Canadian owners of real estate, holding property of an assessed value of \$13,579,158. This does not include the very large amount of real property devoted to religious and educational purposes. I have taken the lowest estimates in each case. There can be no question that the totals for all of the New England States, if they could be procured, would far exceed these figures. Both in number and in value the holdings have increased rapidly in the last ten years, and the increase still continues. Aside from church and school property,—the value of which must now be reckoned among the millions, largely free of encumbrance,—the real estate held by the French Canadians is mainly residence property, though in the larger centres the amount of business property owned by them is considerable. While large numbers of the French still live, of necessity, in corporation tenements and boarding-houses, one of the strongest desires among them is to own their own homes; and, in the accomplishment of this object, they have availed themselves largely of the facilities offered by building and loan associations. It should be remembered that in many small manufacturing towns the individual ownership of real estate is rendered difficult through the ownership of large parcels of land by the corporation, and the requirement that all employees shall live in the tenements of the company. Mr. Gagnon, in his testimony before the Massachusetts Bureau of Statistics of Labor in 1881, gave a good case in point.* Grosvenordale, Conn., including Mechanicsville, had a French Canadian population of 2,400, of whom only twelve were real estate owners; Gardner, Mass., with a French Canadian population of only 766, had seventy-three owners of real estate. It is probable that a good deal of the residence property everywhere represents a relatively high cost to its owners, much of it having been

* *Thirteenth Annual Report* (1882), p. 20.

bought on various schemes of partial payments, at high rates of interest.

These figures show substantial and permanent gains. No less remarkable is the progress in the direction of citizenship. The same cities and towns from which statistics of property-holding have just been given report 17,448 French Canadian voters in 1897; and this number, like the other, is undoubtedly much smaller than the total for New England. Taking into account all the circumstances, the showing is highly creditable. It should not be forgotten that the conditions on which suffrage is granted are less easy in New England than in many of the States of the Union. While nearly one-third of the States extend the privilege of voting to aliens who have resided in the country for various periods, not exceeding two years, and declared their intention to become citizens, complete naturalization, conditioned on five years' residence, is required in all of the New England States. Further, in Maine, Massachusetts, and Connecticut the voter must be able to read the English language,—a requirement of some seriousness in the case of a foreigner already in middle life. A suggestive feature of the matter is seen in the fact that, as a rule, the impulse to seek naturalization has come from the French Canadians themselves, in the persons of a few of their leaders. The French Canadians have never been sought after and catered to, in any noticeable degree, by either of the great political parties; nor has their disposition to qualify for the franchise been greeted with cordiality by any class of Americans. On the other hand, it may be doubted whether the rank and file have as yet developed a very keen interest in the subject. It is the leaders who, convinced that the race has come to stay, have determined to secure for their countrymen, as rapidly as possible, the privileges and rights of American citizenship.

It will be convenient to combine in one exhibit the statistics of voters, property owners, and valuation, for a number of cities and towns having a large French Canadian population, as reported in 1897.

Places.	Estimated number of voters.	Estimated number of owners of real estate.	Estimated value of real estate.
Biddeford, Me.	600	200	\$300,000
Brunswick, Me.	150	58	100,000
Lewiston, Me.	800	202	623,030
Waterville, Me.	600	350	500,000
Manchester, N.H.	1,350	600	900,000
Nashua, N.H.	500	—*	—*
Winooski Falls, Vt.	350	300	400,000
Fall River, Mass.	1,500	—†	2,000,000
Fitchburg, Mass.	326	328	481,825
Holyoke, Mass.	1,000	—*	—*
Lowell, Mass.	1,300	305	975,000
New Bedford, Mass.	472	375	902,053
North Adams, Mass.	450	147	816,000
Southbridge, Mass.	400	225	400,000
Spencer, Mass.	350	1,000	200,000
Springfield, Mass.	500	150	12,000‡
Worcester, Mass.	1,407	350	1,000,000
Central Falls, R.I.	650	253	750,000
Manville, R.I.	250	200	—*
Pawtucket, R.I.	420	650	350,000
Woonsocket, R.I.	1,300	500	1,500,000
Waterbury, Conn.	600	130	340,000

It does not appear that the French Canadians are inclined to attach themselves *en masse* to any one political party. Although the general introduction of the secret ballot has almost wholly done away with the coercion and intimidation of employees which formerly disgraced elections in not a few manufacturing towns, the French Canadians are still somewhat prone to take their national politics from their employer, not through fear or servility, but rather from a feeling that the employer, with his obviously greater interests, must be right. In local elections it is

* No definite report.

† "350 pay taxes of \$50 or over."

‡ Apparently an error

frequent testimony that they are not to be counted on to support either party or any general policy, but are liable to put their votes up for sale, not for money, but for political or social concessions. The French Canadian is not venal, in the sense of being open to bribery with money, but his instinct of self-government is rather rudimentary, and his docility makes him the easy dupe of demagogues, who play upon his ignorance, his pride, or the selfish and temporary interest of his class or race, sometimes with disastrous results.

A respectable number have held political office. The legislatures of each of the New England States have had, as some of them still have, French Canadian members; and the race is frequently represented in city councils and boards of selectmen in communities in which French Canadians are numerous. Other offices commonly held by them are those of deputy sheriff, justice of the peace, notary public, assessor and collector of taxes, coroner, and postmaster, together with positions on various State boards, local boards of health, and school committees. Comparisons at this point, for any purpose, should of course be made with the number of voters, not with the total French Canadian population.

There remains to be considered the threefold question of religion, education, and language. It is at these points that, from the time of their first arrival in New England to the present day, the French Canadians have been most seriously disparaged and most bitterly denounced.

The French Canadians are, with no exceptions worth considering, Roman Catholics. Brought up in Canada in the faith and practices of the Church, they cling to it here as there, and their children do not forsake it. In the early days of their sojourn in New England the Church in Canada was indisposed to exert itself on their behalf. Their coreligionists in their new home viewed them with suspicion and dislike as disturbers of the economic peace,

and their language stood as a barrier between them and the ministrations which they craved. In the mixed parishes of French and Irish there was frequent clashing, sometimes open rupture. So far as religious and moral training were concerned, they were as sheep having no shepherd. It is to Bishop Goësbriand of the diocese of Vermont that the credit belongs of first endeavoring to care systematically for these scattered and neglected French. Father Hamon has vividly recounted the arduous and self-denying labors of this zealous prelate, and the long struggle for the acceptance and realization of his policy. That policy was, in brief, to gather the French Canadians into separate parishes under the charge of French-speaking priests, Bishop Goësbriand being firmly convinced that in this way only could the loss to the Church of many thousands of its members be averted. The extent to which this policy has been adopted may be learned from the list of parishes given on an early page of this article. Opposed for a time by the hierarchy at Quebec, and viewed askance by the authorities of the Church in New England, it has, nevertheless, won its way rapidly to a position of general acceptance. At the present time, wherever considerable numbers of Canadian French are gathered, French parishes and French priests are the rule; and, while mixed parishes are still numerous, they will usually be found to contain either a small proportion of French Canadians, or else a small proportion of any other race.

Along with the organization of separate parishes has gone, somewhat less widely, the establishment of parochial schools. These schools, under the direct charge of the parish priests, with teachers drawn from the various Catholic sisterhoods, give instruction in the usual elementary subjects, in both English and French, a half day's session being usually devoted to exercises in each language. Probably a large majority of the French Cana-

dian children are to be found enrolled in these schools, although I have not been able to obtain figures showing the number; and to a large proportion the parochial school is the beginning and end of the educational course. Save in a few of the larger cities, the public schools make little or no provision for children who cannot speak English; and, while the public schools are free to all, many of those who most need education derive scanty benefit from them because of the obstacle of language. Not many French Canadian children complete a grammar school course, although the number is much larger than formerly; and comparatively few reach the high school. The love of knowledge among them is not keen, and the temptation of the factory and shop is strong.

These two forces of church and school are the two most powerful agencies for the maintenance of distinctive racial and social characteristics among the French Canadians. The authority and influence of the priest are very great. He is not only the religious head and guide of the parish, but the adviser and counsellor of every member in it. To him are referred the greatest variety of questions,—personal and family troubles, labor disputes, political programs, financial and business undertakings; and, on each and all, his opinion carries the utmost weight. In the maintenance of law and order his influence is indispensable. Many a community of Canadian French owes its general good peace and orderliness far more to the priest than to the police.

But the parochial school and the Church are also immensely potent in confirming and perpetuating the use of French as the language of common intercourse. With systematic instruction in the use of French, with French-speaking teachers and priests, and with French as one of the *media* in the services of the Church, the Canadian finds his incentive to learn English mainly in the needs of his industrial or business life. Few French

Canadians, when they come to the United States, can speak English; and the older people, especially the women, often do not learn it at all, even after many years of residence. With the young people it is different. To them the mastery of the language sufficiently to make themselves understood is not difficult, and is, moreover, a valuable part of their stock in trade. But, in learning English, they do not cease to use French. In nine cases out of ten the young Frenchman learns to speak an imperfect English, because his chance of earning good wages is thereby enhanced; but he worships in French, and French continues to be the language of his home and his friends.

In the perpetuation of the French language quite the strongest influence, next to that of the Church and the school, is wielded by the societies of St. Jean Baptiste. These societies, in character partly social and partly philanthropic, are to be found in nearly or quite all the French Canadian parishes, and in many mixed parishes as well. The membership comprises the leading men of the parish, through whom, consequently, the society comes to exercise great weight in parish affairs. Conducting all their proceedings in French, the spirit and objects of these organizations are well summed up in the motto, "Notre Religion, notre Langue, nos Mœurs." To safeguard and advance the interests of the French Canadians in the United States, to preserve the unity and identity of the race, and especially its language, customs, and religion, are the chief aims of the national society of St. Jean Baptiste; and to these they have adhered, and still adhere, with resoluteness and tenacity, notwithstanding all the liberalizing and Americanizing tendencies of the Roman Church, and in spite of the condemnation of the Baltimore Congress, in 1889, in its declaration that "national societies, as such, have no reason for existence in the Church in this country."

It can hardly be necessary for me to say, in this connection, that I hold no brief either for or against the French Canadians; and I am certainly not unmindful of the enormous impulse to social betterment emanating from the Roman Catholic Church. I can but think, however, that the evident purpose of French Canadian leaders, lay and clerical, to preserve, if possible, the distinctive characteristics and the language of their race in this country, justly exposes them and their followers to criticism and suspicion. Protestations of loyalty and patriotism, while doubtless sincere, nevertheless ring hollow to the average man, when accompanied, as in this case, by zealous and systematic measures to keep themselves apart. Whatever the reality may be, the appearance is un-American. Neither the spirit nor the conditions of American life are favorable to the maintenance of distinct groups of population, bounded by lines of race, and kept together by the twin forces of a common language and a common religion; and so long as the French Canadians, either of their own motion or under the direction of their leaders, occupy such a position, no amount of property-holding, no general exercise of the suffrage, and no patriotic declarations or services will suffice to remove the impression that they are still, in essential spirit, aliens and foreigners, living among us because to do so is pleasant and profitable, and not because they genuinely mean to become one with us.

While, however, the attitude of the French Canadians at this point seems to me to call only for condemnation, I am not inclined to think that the evils likely to result from it, save to the good name and influence of the French Canadians themselves, are very serious. The very policy of isolation, putting the race as it does on the defensive, seems doomed in the nature of things to failure. For that policy rests upon the theory that a distinct national type, formed in one country during generations of undisturbed

growth, can be made to persist in another country where nearly every essential condition of life is wholly different, and where every economic and political consideration demands readjustment and change. For such a theory there is no sufficient justification in experience. Indeed, there is no need to look beyond the present situation in New England, so far as the French Canadians are concerned, to see how little the theory actually works as it is intended to work. In spite of every effort to prevent it, the use of French as the language of common life is steadily giving way before the demands of industry, the desire for active political equality, and the influence of the free public schools. Among the younger native-born generation in particular, the desire to remain in any sense a peculiar people is very much weakened. That New England has any reason to apprehend the creation of an *imperium in imperio*, either social, political, or religious, I think there is exceedingly little ground for believing. Nor do I believe that such an idea, whatever its particular form, has at the present day the firm hold that it once had, even among the French Canadian leaders themselves. At the same time, the reactionary policy of which I have been speaking has a moral influence which should not be underestimated, and which is likely to retard, though it cannot prevent, the inevitable absorption of the race in the cosmopolitan American people.

Absorbed or not, however, the French Canadians are in New England to stay. When the emigration first began to assume considerable proportions, the threatened depopulation of Canadian parishes, and the probable loss to the Church of many who went, caused wide-spread alarm in ecclesiastical quarters; and bishops and clergy made every effort to discourage and check the movement. Failing in this, and the occasion for opposition being partially removed by the organization of French Canadian parishes among the emigrants, there was started the agitation

known as repatriation, having for its object the return of the French to Canada. In 1875 the legislature of Quebec appropriated \$60,000 in aid of immigration, to encourage the opening and settlement of new lands. Part of this sum was used to induce French Canadians in New England to return, and an agent was appointed for the purpose; but the whole scheme failed almost completely, so far as the United States were concerned. To-day one hears nothing of repatriation. The Church in Canada no longer actively opposes emigration; and Father Hamon's book, with its outspoken championship of the policy of the French Canadian leaders in New England, is dedicated to Cardinal Taschereau. Of the thousands who have come, a very small number have ever gone back permanently to their old homes. Many have essayed to do so, only to find their former surroundings no longer attractive; and in a short time they have come again. The old people still cherish the idea of an ultimate return to the land of their fathers, but with the others such an idea has hardly the substantiality of a pleasing hope. They still speak of Canada with affection, but it is here that they will end their days.

In matters of every-day habit and appearance there is still much that is distinctive, and not a little that is picturesque, about the life of the French Canadians in a New England community. They are still much inclined to live by themselves, in a particular section of the town or city. In some larger places a few individuals and families have attained a measure of social equality with native Americans. For the most part, however, they are regarded as a class apart, and associate but little with persons not of their own race. Nowhere do they seem to be looked upon, as a class, with entire favor, and in private are often spoken of with contempt; but their work is necessary, their trade important, and their political support not to be despised. The women are fond

of dress, and in their early years are often unusually attractive; but, with hard work and many children, they fade quickly. The older people complain that the younger generation spends its money too freely, and that frugality and thrift are less general than formerly. Whether such is the case I have no means of knowing. All classes are fond of ceremonies, and make much of weddings, funerals, and church festivals. Even under untoward conditions the general tone of life is buoyant and friendly, as of those who take the world with a light heart.

What the immediate future of the French Canadians in New England is to be belongs rather to prophecy than to such a discussion as has been here attempted. It may be pointed out, however, in conclusion, that their permanent worth, as an element in the population, is pretty certain to be measured by the extent to which they contribute to the economic sanity and the good citizenship of which the country is just now particularly in need. Whether they have within themselves the ability to pass from the position of laborers, operatives, and small tradesmen into that of leaders of industry, only time can show. At present the indications are not altogether hopeful. Politically, they are too few in number to exercise more than local influence; and even that will assuredly be minimized, unless they identify themselves completely with the American spirit which they profess to love. The time for apprehension, if such there ever was, lest our institutions should be overborne by this "horde of industrial invaders," is past. The dangers of the future are for the French Canadians, not for us.

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THE BANK-NOTE SYSTEM OF SWITZERLAND.

THE industrial activity of Switzerland does not rest on conditions as favorable as those of most other countries. Of its surface, small at best, a great part is occupied by mountains. It is surrounded by four great countries, all maintaining a policy of protection. It is shut off by the Alps from its neighbors on the south and east, and only within the last fifteen years has been enabled to carry on trade with Italy and Austria through the Gotthard and Arlberg tunnels. It has no mercantile marine and no colonies. Nevertheless, Switzerland has a flourishing trade and highly developed manufactures. Careful statistical inquiry indicates that, in proportion to population, its trade is threefold that of France and exceeds that of England by 40 per cent. Year by year development goes on and calls for new facilities. Such facilities private initiative is free to create; but the state often finds it difficult to act. Under the federal organization, each Canton regards with pride an independence which has endured for centuries. In a democracy, each citizen feels that he is sovereign, and habitually gives expression to his wishes through referendum and initiative. Interests are divergent, there are differences of language and religion, sometimes each valley has customs of its own: hence it is not easy to devise a policy satisfactory to all. The Swiss by no means lack national feeling. So much is proved by the keen attention given to such questions as the acquisition by the state of the railways, the establishment of general insurance against accident and sickness, the maintenance of public schools by the Confederation. It is true also that the average of intelligence is high. Nevertheless, it is inevitable that a large number of voters should have an insufficient understanding at least of the technical aspects of legislative propo-

sals, and therefore should not be able to reach an intelligent and clear opinion on all questions presented to them.

In the financial field, on the 28th of February, 1897, a new institution, the proposed Federal Bank, was rejected at the referendum. It is intended here to give the reader an account of this institution, of the grounds for its proposal and the causes of its rejection, and of the bank-note system of Switzerland in its historical relation to the new plan.

The Swiss bank-note system had its origin in the needs of trade. It arose from private initiative among the merchants, whose interests primarily it served. The rapid industrial development of the second third of this century called for a medium of exchange at once more convenient and cheaper than the bulky silver money. The Cantonal Bank of Bern, founded in 1834, was the first banking institution in Switzerland which undertook the issue of notes. Others shortly followed. At the close of 1862 there were sixteen banks, with a paid-in capital of 37,780,000 francs and an average circulation of 13,756,000 francs. In 1875 there were thirty-two banks, with a circulation of 77,300,000 francs; in 1881 thirty-six banks, with a circulation of 99,400,000 francs. At the present time there remain thirty-four banks, whose total issue exceeds the sum of two hundred millions, and will increase still further in the immediate future. As recently as 1871 the note circulation per head of population was no more than 9.25 francs. At the close of 1896 it had risen to 68.05 francs per head, and in coming years will unquestionably reach a still higher figure.

Before the federal act of 1881 there was no legal regulation, or only partial regulation, of the conditions of issue. The first banks of issue were in no way restricted by the Confederation. Until the year 1882 there was no question of supervision or control. From time to time the individual Cantons undertook legislation, but in entire independence each of the other. Hence all varieties of

policies were exemplified. Sometimes issue was restricted to a certain percentage of capital, sometimes a minimum reserve for notes was required, sometimes there were taxes on issue. Provision was made in some instances for the legal procedure in case of non-payment of notes on presentation. But in no case was there any provision pledging any part of the assets to the note-holders or giving them any priority over other creditors. Some Cantons contributed a portion of the capital of the banks, and so shared in their profits. A few Cantons declared themselves liable for the obligations of their cantonal banks; but note issue was never dependent on the consent of the public authorities. Their articles of association or statutes once approved, the banks secured the right of issue. The business operations which they could carry on were in no way limited, and they undertook without restriction a series of operations which are commonly held to be inconsistent with the functions of a bank of issue.

The conditions under which issue took place were not more various than were the notes themselves, which differed in their form, in their denominations, and in the designation of the specie in which they were payable. In the last-mentioned respect there was a perfect chaos. The banks of Basle and of Geneva issued notes payable in French francs, those of St. Gall issued gulden notes, the bank at Zürich Brabant-thaler notes, the banks of Bern and of Vaud five-franc notes.

As between the banks, there was at the outset no concerted action. On the contrary, they regarded each other with suspicion, and perhaps with hostility. Each bank of issue saw a rival in the others, and regarded the appearance of other notes in its own territory as a usurpation. To assure more ready circulation for its own issues, the notes of other banks were refused or received at a discount. There was no regular official publication of the condition of the banks, and the note-holders were in no

position to ascertain the strength of their claim. Through these various defects the banks did not fulfil the expectations which had been raised in regard to them. Their notes had no ready circulation, and were a defective instrument of credit, limited to a small circle.

The first remedy came in the coinage legislation of 1850, introducing the franc system. But the banks themselves also introduced improvements. Associations (*Konkordate*) were formed for the exchange and redemption of notes, for the issue of drafts, and for uniformity in the management of discounts. These were steps in the right direction, and would have secured great advantages, had all the banks, or at least the greater number, taken part. But diversity of interests caused constant friction, and only a minority of the banks acceded. Even those which joined still regarded chiefly their own interests, looked to their own cash and their own circulation, discounted or refused discounts according to their own individual convenience. Hence the associations proved fruitless precisely in those periods of crisis when they should have been most useful. The situation during the Franco-German War of 1870 served more particularly to bring into relief the defects of the system of issue. During that time the whole machinery of credit in Switzerland came to a standstill. Extraordinary legislation in the form of stay laws and of measures for the procurement of specie from abroad proved necessary to meet the crisis.

A number of capable statesmen and men of affairs now joined in an effort to secure improvement. It was only after a series of fruitless endeavors that a change in the constitution was finally secured in 1874 by the adoption of Article 39, which gave to the Confederation the right to regulate the issue of notes, under the express condition that it could establish no monopoly of issue.*

* The language of the article is: "The Confederation is authorized to prescribe by legislation the conditions for the issue and redemption of bank-notes. But it may establish no monopoly for the issue of notes, and may prescribe no legal obligation for their acceptance."

The first legislation based on this constitutional amendment was passed in September, 1875, but was rejected by popular vote April 23, 1876. It was not until March 8, 1881, that the act now in force for regulating bank-note issue was passed. Its important provisions may be stated as follows. Authority for the issue of notes is given by the Federal Council, and, so long as the requirements of law are complied with, may not be refused. The Confederation assumes no liability of any sort for the issues. Each bank is responsible for its own notes alone, but is obliged to accept the notes of other banks at par, so long as the other banks maintain redemption. With this exception, no one is obliged to accept bank-notes in payment. The notes are not a legal tender, as are the notes of the Bank of France and the Bank of England. The total issue of any one bank may not exceed twice its paid in and unimpaired capital. The Federal Assembly has the right at all times to fix the amount of the total issue, and to determine the apportionment among the several banks. Forty per cent. of the outstanding circulation is always to be covered by a reserve of specie, which must be kept separate from the other cash held by the bank. This reserve for the notes may not be used for the other operations of the banks. It may be used solely for the redemption of notes, and is pledged as a separate fund for their payment. The remainder of the note issue — that is, sixty per cent. — must be covered in one of the following ways: —

- (a) By the deposit of securities.
- (b) By the guarantee of the Canton within whose territory the bank has its main seat of business.
- (c) By commercial paper; provided, however, that the bank limits its operations by excluding therefrom the following kinds of business: —
 1. Advances without security; 2. Sale or purchase for future delivery (*auf Termin*) of goods

or securities, on its own account or on behalf of others, or the assumption of guarantee for such transactions; 3. The purchase of real estate beyond what is needed for the bank's own business; 4. The conduct or promoting of manufacturing or trading enterprises, trade in the precious metals alone excepted; 5. Insurance business; 6. The emission as underwriters of shares or bonds, excepting Swiss public loans; 7. Participation in firms which carry on the prohibited operations.

A note which a bank fails to pay may be legally protested, and thereupon, after a time to be fixed by the federal courts, compulsory liquidation of the bank is to ensue. The banks must hand in to the Federal Council weekly reports of their situation, monthly balances, and yearly accounts. These documents are inspected, published, and their results presented in statistical form by the Inspector of the banks of issue. That official also undertakes the execution of the regulations as to the conduct of business by the banks, and the manufacture, at the expense of the banks, of uniform paper for the notes. A tax on the notes for the Confederation is imposed at the rate of one per thousand, while the Canton may impose taxes not exceeding six per thousand.

Even before the failure of the bill of 1875 the banks had been led on their part to take steps to improve the situation. A new association was formed, broader both in scope and in membership. It sought to secure, in addition to the various arrangements for the mutual acceptance and redemption of notes, a larger development of drafts and checks. This was followed in 1882 by still another agreement, which had for its object the introduction of a clearing-house system. The *Centralstelle der schweizerischen Emissionsbanken* was established, under the supervision of a committee appointed by the banks. It

was administered by one of the larger among the associated banks,—since 1887 by the Cantonal Bank of Zürich. The main provisions of this agreement, which is still in force, are as follows: Each of the banks has to keep a deposit with the central bank, on which no interest is paid. Clearings are effected by debit and credit on each account or by remittance of cash. The depositing bank alone can dispose of its deposit. The amount deposited may be treated by the bank, if it so wishes, as part of the required reserve against its note issue; but in this case the bank can dispose only of so much of its deposit as is not needed to make up the 40 per cent. cash against its notes. The banks open accounts with each other for the settlement of note transactions, which can be disposed of in their entirety through the clearing house. Creditor banks may at any moment require the satisfaction of their debts. If cash should be demanded, the debtor bank may comply by turning in notes of the creditor bank. In general, the creditor has the right to determine in what way his demands shall be met. Mutual credits are set off against each other. The central bank informs the members and also the federal government, each Monday, of the amount of the several deposits, and is required, on request of the government officers, to give telegraphic information at any time within business hours of their amount. In fact, it is subject to control by the federal government to the same extent as any bank of issue. The latest changes in this agreement date from the year 1887, and regulate further the draft and check arrangements between the several banks.

These revised articles of association and the provisions of the act of 1881 were expected to remove the defects of the Swiss bank-note system. But the development of the clearing-house system, even though it continues to exist to this day, was far from satisfactory, largely because of certain prejudices on the part of the banks themselves.

The conviction was reached in many quarters that the act of 1881 also did not remove the main evils. These evils were the insufficient amount of cash at free disposal, undue increase of obligations on short time, lack of credit for the notes in foreign countries, and, above all, the absence of a united and consistent discount policy as a means of maintaining an ample cash reserve. It was believed that these difficulties, leading to danger more particularly in times of crisis, were the consequence of plurality of issue. The demand arose in many quarters for the establishment of a financially strong central institution, possessed of a monopoly of issue, such as economists of note had already advocated as early as the decade 1870-80.

The bank-note gradually became a more and more important part of the machinery of exchange. Gold rarely appeared in every-day circulation,—a result doubtless inevitable from the position of Switzerland in the Latin Union, and from the steadily unfavorable balance of trade. The growing importance of the bank-note appears sufficiently from the following figures:—

	<i>Number of banks.</i>	<i>Average notes issued.</i>	<i>Average notes in circulation.</i>	<i>Average cash.</i>	<i>Proportion of cash to effective circulation.†</i>
1882	29	fr. 102,318,000	fr. 89,601,000	fr. 51,746,000	58%
1883	29/33	108,019,000	96,864,000	57,407,000	62.9
1884	33	128,522,000	114,017,000	63,578,000	60.0
1885	33	135,902,000	123,431,000	65,511,000	57.2
1886	33	137,886,000	127,064,000	66,728,000	57.3
1887	34	142,019,000	134,835,000	75,666,000	61.6
1888	34	150,320,000	139,637,000	74,161,000	58.7
1889	34	153,494,000	145,461,000	76,255,000	57.3
1890	35	161,342,000	152,444,000	80,943,000	57.6
1891	36	181,522,000	163,487,000	84,892,000	57.1
1892	34	177,238,000	163,844,000	88,933,000	59.5
1893	35	176,685,000	167,369,000	89,413,000	58.0
1894	34	180,585,000	171,285,000	92,492,000	58.3
1895	34	185,834,000	179,221,000	93,649,000	55.8
1896	34	197,310,000	190,155,000	95,713,000	53.9

† "Effective circulation" means the notes in the hands of the public, excluding those held by banks of issue.

In the period covered by this table a complete change had taken place. In every-day transactions, notes almost completely superseded specie. What specie remained in the country was held by the banks in their reserves. Silver and paper alone were in every-day circulation. The uneasiness which this change aroused in the public doubtless was not entirely justified. It was part of the development of credit, which took place in Switzerland as in other countries. The change from specie to a representative of specie caused apprehension of a deterioration or depreciation of the medium of circulation; but no such result has ensued even to the present day. The Swiss banks of issue are sufficiently strong: so much is secured by federal control. What they lack, at least in part, is a sufficient supply of cash for periods of stress, when unusual demand for specie arises and a run may be made. While the eventual payment of the notes is in no way doubtful for any single bank, there is ground for fear lest in times of crisis, and especially in case of war, their immediate redemption may not be maintained.

The Federal Council, though convinced of the necessity of the centralization of note issue, nevertheless acted on the request of the Assembly, and framed a bill revising the laws on the basis of the existing system. In the report accompanying this bill (June, 1890) the Council stated that, even as revised, the system would not be definitive and satisfactory. Such a system could be secured only by the establishment of a state bank equipped with a monopoly of issue, and required to maintain an adequate supply of specie and an unimpaired standard of value. No doubt, absolute security would not be attained even by this arrangement; but it would bring a higher degree of security against possible contingencies and inevitable crises. Meanwhile the idea of centralization had gained ground in the legislature also. The bill prepared by the Federal Council was rejected without discussion in the lower house

(*National Rath*), and the Council was requested to prepare in its place a revision of the article of the constitution relating to bank-notes, in such manner as to provide for the exclusive right of issue in the hands of a central bank to be established by the Confederation. The new article of the constitution, prepared under these conditions, was accepted by the people on October 18, 1891, by a vote of 230,108 against 157,853.*

This change in the constitution made it possible for the Federal Council to proceed to the preparation of an act for the establishment of a state bank. It will be noted that one important question was not decided by the terms of the amendment,—whether the bank was to be a state bank or a joint-stock bank. The choice so given had been intentional. It had been feared, no doubt with reason, that the immediate decision of this question would have divided the advocates of centralization into two parties, advocating respectively a state bank and a private corporation, and that this division would have made it possible for the opponents of centralization to defeat the entire project. It was hoped also that the postponement of this decision would make it possible to clarify the opinions and interests of the various elements to be affected,—the Cantons, the cantonal banks, the other banks of issue, the different political and economic parties. Hence in this first step the attempt was made only to unite all those who were

* The article reads as follows: "Authority to issue bank-notes and other substitutes for money belongs exclusively to the Confederation. The Confederation may exercise this authority either through a state bank, which shall be under separate administration, or may delegate it (subject to repurchase) to a central joint-stock bank, administered under its supervision and with its co-operation. It shall be the main duty of the bank so equipped with monopoly to regulate the circulation of money and to facilitate payments. The profits of the bank, over and above interest on its capital, or a reasonable dividend on share capital, after sufficient retention for surplus, shall be divided up to at least two-thirds of the amount among the Cantons. The bank and its branches may not be taxed by the Cantons. The Confederation may not compel the acceptance of the notes and other similar representations of money, except under necessity in time of war. The legislation of the Confederation shall provide as to the seat of the bank, its organization, and the general execution of the present article."

satisfied that the existing system was untenable, and were in favor of some sort of monopoly. For the moment the desired result was attained, the amendment being accepted. It should be mentioned, however, that this success was due in good part to the provision by which two-thirds of the profits were to be distributed among the Cantons.

The federal department of finance, to which the Council intrusted the more detailed elaboration of the project, was confronted with the necessity of making a decision in favor of one or the other principle. In January, 1894, the principle of a pure state bank was adopted; and a measure framed on this basis under the title "Federal Act of June 18, 1896, for the Establishment of a Swiss Bank of Issue," was submitted to the people on the 28th of February, 1897. The contest had been bitter in the Assembly, and was waged bitterly for weeks before the vote in the press and before the public. The final vote by referendum, on February 28, 1897, was in the negative. The majority against the project was some 60,000 votes.

Although the bill was thus rejected by the Swiss people, its details may be of interest to students of financial legislation; for the institution which it was proposed to establish was of unique character. Central banks having a monopoly of note issue are common. Indeed, the trend of policy in European countries, certainly on the continent, is in this direction. But a bank owned and administered, not by a privileged corporation, but directly by the state, and moreover by a democratic state, would be an important departure from existing practices and traditions. Further, the measure was framed with great care as to every detail. Opinions and proposals were invited from the representatives of the existing banks of issue; experts were requested to present plans of organization; public men were asked to state their opinions; jurists were requested to report on the principles of international law applicable to state banks and private banks in times of war. The result of this careful

and methodical procedure was, as the debates in the legislature and in the press made clear, that the plan was elaborated with success, and, so far as its technical details were concerned, was admitted by its opponents to give no occasion for criticism. In the Appendix will be found the text of the bill, which must have an important influence on the future financial history of Switzerland, and may have its effect on that of other countries as well. Some comment may be welcome on its provisions and on their bearing on the present banking situation in Switzerland.

In accordance with the familiar principle that bad money displaces good, credit money in the form of notes has in large part displaced specie in Switzerland. Full-value specie serves for transactions with foreign countries. The less valuable substitute, the bank-note, must suffice for domestic requirements. This change in the medium of exchange, brought about by the banks of issue, imposes upon them the moral duty of seeing to it that the country is not bared of specie, and that a sufficient supply remains for the needs of trade in different sections and in different branches of industry. For those banks (to be sure, a minority) which conscientiously endeavor to fulfil this duty, the task is difficult, because, as has already been pointed out, the international trade of Switzerland, both from general economic causes and in consequence of the tariff policy of other countries, tends to drain the country of its specie. This situation is still further aggravated by the stipulations of the Latin Union. For reasons which there is no space here to consider, Switzerland has little specie of its own coinage. The total coinage to December 31, 1896, was :—

35,000,000 francs gold.	
10,630,000 francs silver.	
25,000,000 francs subsidiary silver.	
5,775,000 francs nickel and copper.	
<hr/> <td>Total, 76,405,000 francs,</td>	Total, 76,405,000 francs,

or 25.85 francs of Swiss coin per head of population. But the specie of Swiss mintage probably does not constitute a quarter of the total circulating in the country. All told, the specie of domestic and of foreign mintage together constitutes only about 60 per cent. of the total circulating medium; that is, of specie and notes taken together. The annual imports of Switzerland exceed the annual exports by more than 300,000,000 francs. The difference must be paid, and explains why little specie remains in Switzerland. It is used to meet foreign obligations, and obviously is far from sufficing for that purpose. Each year many millions of francs of foreign drafts, especially drafts on Paris, must be procured. Hence foreign exchange, and especially exchange on Paris, is always in demand, and year in year out is almost constantly quoted above par. This state of things gives rise to active speculation. Large quantities of specie are regularly sent out by banks and others, exchange being drawn against the shipments so made. A small number of the banks of issue (the majority, unfortunately, take no concern in the matter) have then to undertake the thankless task of recovering the specie, and securing a sufficient supply to maintain note redemption and satisfy the demand for discounts. They buy back the exported specie by the wagon-load at an expense which for certain of these institutions amounts to over 200,000 francs annually. Damaging as these speculative excesses are to the public interest, the individual banks are helpless against them. The proposed Federal Bank, equipped with monopoly of issue and entrusted with the duty of regulating the circulating medium, could have put a check on them, especially by a wise discount policy; while by an extended clearing-house system it could have provided more fully for the needs of trade. The Reichsbank of Germany, which has a similar position, accomplishes the task for Germany; and it was to be expected

that the Swiss Federal Bank could accomplish it for Switzerland.

With the present system of plurality of issue, the one thing lacking is a consistent, courageous, and single-minded discount policy. This is the cardinal evil; and experience has demonstrated, at least in Switzerland, that it is due to freedom and plurality of issue. Now the most essential task in the issue of notes is the proper and conscious control of discounts, by which alone the fluctuations in the demand for money can be regulated in such manner as to protect the domestic supply. Switzerland, small as is its territory, is not only independent politically, but also forms a separate industrial territory. It therefore needs such a discount policy for the protection of its circulating medium. In view of the many and disunited banks of issue, no consistent and steady policy can be maintained by them. The individual banks, or at least the majority among them, are not in a position to judge of the international money market, and, even were they able to do so, lack the means for appropriate action; and, moreover, some among the banks refuse to take public-spirited action in the interest of the whole community.

It is true that since June, 1895, there exists a so-called Discount Committee appointed by the banks, composed of five of the more important banks of issue and presided over by the Bank of Basle. This committee fixes from time to time a maximum rate of discount, obligatory upon the members; but the arrangement, though it must be admitted to have achieved something, is not adequate to the task in hand. Too much play is left to the individual banks. Moreover, the competition of other important banks, not issuing notes, often prevents the associated banks from meeting the needs of the country without injuring themselves. Hence it not infrequently happens that, while not acting exactly in opposition to each other, they do not give effective mutual aid. The conclusion

had thus been reached in many quarters that the only remedy was to be found in the abolition of the system of plurality, and the establishment of a single institution capable of acting with promptness and with effect.

The difficulties are not less in the facilities for remittance. As has already been stated, the country has no developed check system. The Association (*Konkordat*) formed in 1881 has not accomplished its objects. Of the thirty-four banks of issue, twenty-five are members. The object of the Association was not only to aid in conforming to the provisions of the legislation of 1881, but to establish a clearing house. At the outset the clearing house was much used by the banks, but gradually its transactions diminished. In the years 1883-84 the transactions were over 120,000,000 francs; but in recent years, though the need for some such institution has become more and more strongly felt, they have diminished to something like 10,000,000. There are several causes for this decline. Some are to be found in the provisions of law as to the reserve for notes. Others arise from the unwillingness of the banks to undertake voluntarily any obligation entailing avoidable expense. Thus the exchange of notes at the clearing house was suspended because it brought about a too rapid back-flow of notes. Similarly, clearings on collection account between the several banks (*Wechsel-in-kasse*) were suspended. The repeal of the last-mentioned clause of the articles of agreement is the main reason why the clearing house is practically no longer used. Check transactions (*Giroverkehr*), this latest development in the field of banking operations, had never taken root in Switzerland. This is simply an element of industrial inferiority, and must be ascribed to the plurality of issue. Under the old article of the constitution relating to banks of issue, no federal legislation on this subject was possible. The rejection of the proposed Federal Bank leaves this great

gap still unfilled in the Swiss banking system, and must be regarded as one of the main causes of the very rapid increase in note issue in recent times.

By Article 2 of the proposed act the Confederation assumed direct responsibility for the debts of the bank. This was much discussed and much opposed; but it was the inevitable result of the creation of a pure state bank. Any attempt to confine liability to the proposed corporation must have been futile in view of the manner in which it was constituted. Similarly, there was much discussion as to the seat of the main office, which was finally fixed at Bern, a neutral and central place. One of the most difficult problems in the new proposal appears in the last clause of Article 3, providing for the establishment of agencies, and for a due consideration in their establishment of the existing cantonal banks. The jealousies and difficulties connected with this part of the proposal contributed to its final rejection. The several Cantons, acting on the invitations extended to them, had made various proposals as to the relation between the existing cantonal banks and the Federal Bank. They were desirous of securing some organization which would enable them to retain the profits from their present right of issue. The projects suggested with this end in view were not consistent with each other; and, notwithstanding the efforts of those concerned with the elaboration of the plan, it proved impossible to make an acceptable arrangement. It was not feasible to make the cantonal banks agencies of the Federal Bank. An agency cannot be independent: it must be a subordinate and dependent institution. Hence it was only contemplated that the cantonal banks might act in certain places as representatives of the State Bank for purely passive operations, such as the payment of notes and of checks. Subject to this qualification, the demands and proposals of the cantonal banks had to be rejected. By limiting the operations of the Federal Bank as rigidly as was done in Arti-

cles 6 and 7, and by providing in Article 18 for a division of the profits among the Cantons, it was hoped on the one hand that a sufficient sphere of action would be left to the cantonal banks, and on the other hand that the financial interests of the Cantons themselves would not suffer. But the larger demands in their behalf, and the claim put forth for compensation to them on account of the loss they would suffer from relinquishing the right of issue, had to be rejected.

It was on similar grounds that the Cantons were given the privilege of subscribing to part of the capital of the bank. The Federal Council had not provided for this in its bill, but a concession was finally made to the Cantons by allowing them to subscribe for two-fifths of the capital in the manner prescribed in Article 4. This article was the subject of more heated discussion than almost any other. It was attacked both by the opponents of all centralization and by those who favored some other alternative, such as a private corporation or a larger participation by the Cantons.

Article 6 limits the operations of the bank within carefully defined bounds. It was to be a pure bank of issue, deposit, and discount. Only as such would it be able to meet the task imposed upon it by the constitutional amendment, of regulating and maintaining the monetary stock. A further ground for limitation was the desire not to compete with the existing banks, especially the cantonal banks, but rather to afford them support. Its main business was to be the discount of Swiss commercial paper; and only such paper could be taken as was due within three months at the longest, and had the signature or indorsement of at least two persons of known solvency. These restrictions were expected to prevent the discount of any paper not arising from actual commercial operations. They were expected also to cause the first negotiation of the borrower to take place ordinarily with other

banks, of more flexible organization and more local character. The State Bank would have been an efficient supporter of the other banks, rediscounting their paper as occasion arose, and so serving as a reservoir whence they could secure cash. The bank was to have become in fact a bank of banks.

The other permissible operations call for little comment. Loans on collateral were allowed; but only bonds and similar obligations, not shares, could be accepted as collateral. It was expected that this authority would enable the Confederation and the Cantons to secure temporary loans against their securities, and relieve them from the need of turning to private banking houses for this purpose. The actual purchase of securities by the bank, authorized in clause 4, would enable it to earn interest in times of superabundance of cash. While such investments were not limited as to duration, they were intended to be for temporary purposes only. Clause 5 authorizes the bank to accept deposits at interest, and in this regard it would have followed a policy different from that of the great central banks of other countries. But the more modest circumstances of Switzerland made it necessary to give the privilege of accepting, over and above ordinary deposits, others on time and at interest. It was expected that this would be done only for large sums and at low rates of interest, especially as competition with the existing savings-banks was to be avoided. Clause 8 specifically mentions check and draft operations. It was desired that a network of banking institutions, with the State Bank at their head, should cover the whole land, as the post-office arrangements already do. Check and clearing-house operations combined were expected to meet the needs of trade and of industry in the widest degree, and to simplify remittances in every direction. By the consummation of thousands of transactions through simple book transfer, it was expected to dispense with a great part of the note

issue, and so to bring the volume of notes within more moderate dimensions.

It will be observed that certain operations were not allowed to the bank. Such, for example, were all kinds of speculative transactions, loans and advances on current account, mortgages, savings-bank operations, the purchase and sale of securities on commission as agent of others, and, lastly, the purchase of shares as well as the making of loans for which shares were security. The object of these limitations was partly to prevent transactions which should commit the resources of the bank for a considerable period or involve much risk, partly to prevent the bank from competing too sensibly with existing institutions.

So far as advances on current account are concerned, it is true that these are usually subject to call at a comparatively short interval. Nevertheless, a certain stability is commonly assumed in regard to them. Demand for repayment is not expected unless the debtor's position or the security offered by him has changed: it is tacitly understood that a bank which makes such advances is not to demand settlement simply because it needs the funds for other purposes. A bank which relied in times of stress upon the repayment of such loans would be in ill plight, for these are precisely the times at which the debtor is least able to respond.

Loans on mortgages are obviously inconsistent with the business of a bank of discount. Some suggestions were made, in the course of the debates on the project, that the bank should make loans on mortgage, and so reduce the rate of interest for the Swiss borrower; but it was easy to show, not only that these operations were outside the scope of the proposed institution, but that there was no sensible margin of gain to be secured for the debtor. Under the most favorable conditions a state bank could lend at little less than 4 per cent., possibly at $3\frac{1}{2}$ per cent.; but the best mortgages can already be negotiated on these terms.

Further, the circumstance that each Canton has its own system of law in regard to mortgages made the establishment of any sort of central bank for negotiating them out of the question. Uniform regulation of the law on this subject, which the Swiss constitution leaves entirely in the hands of the several Cantons, would be an indispensable preliminary.

Savings-bank operations were similarly excluded. Savings deposits constitute an element of serious danger in times of crisis. Moreover, savings-bank investments have attained a large development in Switzerland. The number of private savings-banks is large. They are usually administered without pay, and sometimes with the co-operation of the cantonal governments. The deposits in them are not commonly regarded as irrevocable; nor are there, as a rule, provisions for the forfeiture of interest in case of withdrawal. The competition of lenders has compelled savings-banks to deal liberally with their customers. The depositor not only receives his interest at $3\frac{1}{2}$ per cent. or $3\frac{1}{4}$ per cent., but has his principal freely at his disposal. The savings-bank book has, in many places, become virtually the bank book for the current accounts of persons of small means.

The regulations as to note issue are in Part III., Articles 8-16. The total note issue, by Article 8, was to be kept within a maximum limit to be fixed from time to time by the Federal Assembly. The Federal Council in its draft had not proposed any legislative regulation for a maximum amount of the note issue. It was believed that, so long as ample and proper security for the notes was provided, nothing would be gained by any absolute limitation of their amount; while, on the other hand, it might be advantageous to have a considerable reserve of notes available for use in times of unusual demand. The Assembly, or rather its lower house (the *National Rath*), concluded otherwise. It was provided in the project, as submitted

to the people, that the Assembly should fix from time to time a maximum limit of the total note issue.

The total note circulation of Switzerland is subject to considerable periodic fluctuations. There are several dates in each year when the circulation rises greatly. Such are the days on which interest is commonly payable; the last day of each month; noticeably St. Martin's Day (November 11) and the closing days of the year. In view of these variations, any fixed limit to the note issue seems to be inexpedient. The new act ought not to have repeated the mistake which the existing legislation of Switzerland makes in this regard. The present system is inadequate to meet the fluctuating demands, even though the banks endeavor to meet the difficulty by carefully putting in reserve from time to time their accruing resources as a means of meeting the periodic calls. Their notes are regularly inadequate in amount at the dates of the heavy demands. No increase of issue can be made without previous fulfillment of certain conditions, which must be certified to by the Federal Council. On the other hand, the total authorized issue is subject to tax by the Confederation, and to some extent by the Cantons also. Hence a bank having a store of its own notes on hand in times of slack demand is under pressure to make rash and ill-considered advances, and the rate of interest is then abnormally lowered and speculation facilitated.

While this rigidity in the circulation has its inconveniences in times of peace and quiet, it leads to more serious difficulties in times of stress, and more particularly under such conditions as were met during the Franco-German War of 1870-71. Such periods of stress must be looked forward to, especially here in Europe; and during them there is inevitably a sudden increase in the calls for cash. Hundreds of transactions ordinarily disposed of through the machinery of credit must then be settled in cash,—through notes or specie, mainly specie. Hundreds of per-

sons lay in a store of cash or increase the store already at their disposal. Heavy expenditures for military purposes are likely at the same time to strain the financial and monetary resources of the community to the utmost. That our existing system of issue is unable to cope with a situation of this sort was amply proved by the experience of 1870-71. Hence it would have been desirable in establishing a state bank so to equip it as to prepare for these eventualities. Therefore, the Federal Council had proposed to leave the total note issue to the discretion of the administration of the bank; but the Assembly thought differently, and proposed to keep the total limit in its own hands. It was supposed that the average citizen would feel greater security if it were provided that this matter were subjected to the watchful control of the legislature.

The requirement as to the reserve of the State Bank must be regarded as much more rigorous than that now in force for existing banks. It is true that existing banks must keep a reserve of 40 per cent. of their notes; but there is no regulation as to their other debts due on demand or on short time. Further, in the case of the cantonal banks, the remaining 60 per cent. may be covered by simple guarantee of the Canton. It should be said that our banks have always conformed strictly to the requirement of the maintenance of the 40 per cent. reserve; but they have done little more. Accounts are on hand from which it appears that some banks hold, over and above this required amount, only 2 per cent. more of specie to meet all their remaining short-time obligations. It is obvious that banks so slenderly equipped with cash have enough to do in looking to their own security in times of stress, and are in no position to give support to a disturbed business community. Their disposition must be to realize on their advances rather than to offer new loans. The situation would have been different with the proposed State Bank. For this the total equivalent of its outstanding notes

would have been in its hands in the form of short-time commercial paper, specie, or easily salable exchange on foreign countries.

It has already been stated that there is not the least question as to the ultimate solvency of the Swiss banks of issue. In this respect the law and the supervision provided by it accomplish their object. What is in doubt is the immediate and unfailing redemption of the notes. The note-holder who needs ready cash can get but little consolation from the assurance that the bank which cannot pay its notes on the spot will be able in course of liquidation, and after so and so many months, to pay the last centime. It is true that we have the 40 per cent. specie reserve against the notes. But this fund of specie, as prescribed by the legislation of 1881, is not available for the payment *in toto* of any one note, but is a guarantee of the final redemption of the entire issue of each bank. If, for example, a bank has outstanding fifty millions of notes, and consequently holds in its coffers twenty millions of specie, it may not use the entire twenty millions for the payment of the first twenty millions of notes presented. The bank may use this specie for the payment of 40 per cent. on each individual note, the remainder being obtainable only by resort to its other assets. Hence it may well happen that a bank whose assets did not consist in sufficiently large proportion of short-time loans might be compelled to suspend, even though it had millions of specie in its vaults. Our legislation as it stands provides rather for the ultimate payment of the notes than for their immediate redemption.

Some figures as to the existing situation will serve further to illustrate this point. At the close of 1896 our banks owed in round numbers 200,000,000 francs in notes. Although these are strictly payable at sight, or at least within two or three days, it is not to be expected that even in times of crisis all would be presented at once.

But it may be assumed that in case of a panic two-thirds of the amount, say 185,000,000, might be presented for redemption within a week. To meet this demand, the banks would have at their disposal the following means: (1) Two-thirds of the legal reserve of specie; that is, two-thirds of 80,000,000, or 53,000,000: add 16,000,000 of free specie, and we have a total of 69,000,000 of specie. (2) Loans on short time to the amount of 92,000,000. (3) A part of their commercial paper and securities. The amount of foreign exchange held was 18,000,000, of which we can suppose one-fourth, or 8,000,000, to be immediately realizable. The domestic paper amounted to 205,000,000, of which perhaps 25,000,000 would be due within a week. Lastly, the securities amounted to 248,000,000, of which perhaps about 25,000,000 could be converted into cash within a week without excessive loss. All told, we should have as immediately available assets 214,000,000 francs against 185,000,000 of notes presentable for redemption. But with the 214,000,000 the banks must provide not only for their notes, but for their deposits, for savings-bank accounts, and other obligations falling due in short time. The savings-banks account alone amounts to 258,000,000, of which twenty-five or thirty per cent. is payable after eight days' notice. Further, 180,000,000 of other debts are due on short time. All told, the possible demands must exceed the assets immediately available. Doubtless those directly interested in the banks might make a more favorable calculation; but it is not very material whether the discrepancy is a trifle more or less. The situation is certainly not an enviable one for the banks or for the public.

Not only was it provided that the assets of the State Bank should be *in toto* of a kind easily realized on, but that under any circumstances a specie reserve of one-third should be held against the notes. It was to be expected that this provision would be purely formal. The whole

organization of the bank would unfailingly have brought about a higher reserve. The Bank of France, which acts under no limitation whatever in this regard, regularly keeps a reserve of 90 per cent. While the Swiss Bank would not have operated under conditions so favorable as those of the Bank of France, it may be safely assumed that under reasonably careful administration its specie would have greatly exceeded the required one-third.

The grounds on which the majority of the Swiss people finally voted against the proposed institution may be summarily stated as follows: (1) Fear of state socialism, which was depicted in the most glaring colors by the opponents of the project. (2) Opposition to an increase in the power of the Confederation, and apprehension that a state bank might be used for political purposes by the federal authorities. (3) The connection between public credit and the credit of the bank was regarded with anxiety, the unlimited liability of the Confederation for the obligations of the bank being supposed to be a source of great danger. (4) The possibilities in case of war, the funds of the State Bank being subject to capture and appropriation by an enemy. (5) The business circles directly interested objected (through the Swiss *Handels- und Industrieverein*) that too little share in the administration of the bank had been left to merchants and business men; that in the Bank Council the representatives of trade and manufactures had a minor part, whereas in other countries this class in the community was expected and authorized to exercise an adequate influence on similar institutions. (6) The existing banks of issue were inevitably influenced by the loss of profit on their circulation and by the competition which they must expect from the new institution. (7) Certain Cantons were influenced by the financial loss which they must similarly experience from the withdrawal of the issues of the cantonal banks.

It would carry us too far to weigh the validity of these various objections, some of which, indeed, have been sufficiently considered in the preceding pages.

Before the vote, the leader of the opposition and the originator of the demand for a referendum, Herr Cramer Frey, president of the *Handels- und Industrieverein*, had given assurance that immediately on the rejection of the project a new plan on a different basis would be taken in hand. The representative of the Federal Department of Finance, Herr Hauser, has recently invited this society to fulfil the promise so made, and to proceed with the elaboration of a new project. Inquiries having this in view, we understand, are now being made, and more particularly conferences have been held between the society and the associated banks. A circular has been issued to the banks, asking them for a statement of their views. A majority of the banks have expressed themselves in favor of a central joint-stock bank; but the differences of opinion as to the details of its constitution are so great as to make it difficult to elaborate an acceptable project.

Meanwhile, at a general meeting of the associated banks, held on the 28th of May last, the Bank of Basle made a motion for a revision of the existing articles of association and for a fresh reform in the legislation regulating the banks of issue. The somewhat detailed statement of the grounds of this motion mentions that, "through the votes and opinions which have been elicited by the inquiries of the *Handels- und Industrieverein*, it is made plain that the interests and the opinions of the banks of issue vary widely, and that it is difficult to unite them on any one project. To bring them together, concessions must be made which, even with the greatest good will, are not to be expected. . . . Meanwhile trade progresses, and its rapid development makes it imperatively necessary that the efficiency of the banks of issue shall be increased by some better organization. Various motions presented of late at the

general meetings of the associated banks have been either rejected or have been postponed until the fate of the State Bank shall be settled. We believe that the time has now come for a careful consideration of all the questions which have been thus postponed. We propose therefore a revision of the two existing agreements (*Konkordate*) in connection with which the various proposals made in recent years shall receive their due consideration. Such a revision is not to be understood as indicating any opposition to the execution of Article 39 of the constitution [that is, the new article providing for a monopoly bank]: it should serve rather to pave the way to the eventual establishment of a state bank." The motion made on these grounds by the Bank of Basle was carried. There is thus ground for hope that the revision of the bank agreements may lead to better organization of the banks themselves, and to better service for the industries of the country, until such period as the existing system shall finally be replaced by a central bank system.

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THE OBJECTS AND METHODS OF CURRENCY REFORM IN THE UNITED STATES.

AGITATION for currency reform is by no means of recent origin. Indeed, in a certain sense, this agitation can be said to date from the close of the Civil War. Of course, it has not been altogether continuous either in intensity or as respects the precise objects sought. Up to 1880 the particular questions which now most agitate the public mind received comparatively little attention, though considerable stress was laid on the importance of elasticity — especially emergency elasticity — to meet the needs of a panic. But since 1880 the stream of articles, papers, and reports, setting forth projects of reform which in large measure anticipate those now before the country, has been almost continuous. The force of the agitation diminished at the close of the decade 1880-90, and in the early years of the next decade, when the renewal of the struggle over silver made it necessary to confine attention to the all-important matter of the standard of value. But, after the panic of 1893 and the repeal of the silver purchase act, the movement for currency reform assumed great proportions. It was felt, as never before, that something must be done to give increased security to the standard of value and to furnish a more satisfactory paper currency. This feeling, especially as respects the paper currency, found its first important expression in the so-called Baltimore Plan, put forth by the Bankers' Association in the fall of 1894. This was quickly followed by Secretary Carlisle's scheme, which got so far as to be favorably reported by the House Committee on Banking and Currency. The next Congress took up the matter with earnestness; and a number of bills were brought for-

ward, some of which deserve very careful consideration. In the early weeks of 1897 the movement received a new impulse from the Indianapolis Business Men's Convention. This convention resulted in the appointment of a Monetary Commission, which prepared and submitted a long and elaborate report in the first days of 1898. This, again, had been preceded a few weeks by the plan of Secretary Gage. It is perhaps unnecessary to add that alongside of these projects having a public or semi-public origin, there have appeared innumerable plans of reform from editors, bankers, and other persons who represent only themselves.

But, in spite of the very considerable dimensions of the agitation,—whether judged by the number or by the standing of the participants,—it is apparent that we are still a good way short of attaining an adequate measure of currency reform. Much has yet to be done, if the movement is to succeed. One thing needed, as probably all would agree, is the securing of greater unanimity among those who materially influence legislation, both as to what is wanted and how it is to be accomplished. But, again, a necessary preliminary to this unanimity is the securing of clear and definite ideas. The subject of currency reform is, at best, a difficult one, and the great multiplicity and apparent complexity of reform projects add much to the confusion of mind in which men generally find themselves with respect to these matters. As in so many similar cases, a clear understanding of the objects aimed at and of the means which must be employed for accomplishing these objects makes the comprehension of reform plans much easier than would generally be supposed. Doubtless there is much room for difference of opinion as to which of several methods of accomplishing a given object is, on the whole, best. But a necessary preliminary to agreement along these lines is plainly better comprehension, and that can be much facilitated.

To bring about this better comprehension of objects and methods, nothing seems more promising than a comparative study of projects now before the country. For it is surely safe to say that few, if any, possible expedients for accomplishing the ends of currency reform have been overlooked in the long agitation, and that the plan ultimately agreed upon will be some combination of the methods and devices already put forth in the numerous projects now before the public. This, then, is my purpose,—to undertake a comparative study of projects for currency reform, with the design of making clear the objects of such reform, and the various methods and devices which have been or may be proposed for accomplishing these several objects.

Taking up, then, the objects of currency reform, the first and most important is the securing of greater stability for the standard of value. At present it is doubtless true that the meaning of the word "dollar" is determined by 25.8 grains of gold; and, in a general way, this has been the fact ever since January 1, 1879. Yet it is a commonplace that whether or not this should continue to be the fact has been in the highest degree uncertain for several years. To borrow a figure from mechanics, the standard has been, and is, in a state of unstable equilibrium. At almost any moment it has been liable to be overthrown. Again and again, during the last five years, we have been on the eve of a state of things wherein the value of one dollar should come to be determined by something other and cheaper than 25.8 grains of gold. It is not improbable that the danger of such overthrow of the standard has been somewhat exaggerated, and that the gold standard has been more secure than is commonly imagined. Nevertheless, there has undoubtedly been some considerable danger of this overthrow; and the fear of it has been almost as disastrous as the real thing could be. While the results of a sudden

drop to a silver basis or even to a greenback basis would be appalling, few things can be more disastrous in the industrial world than continued uncertainty. The blight which this state of things puts on all industrial enterprise almost inclines one to say, "Better give us the change at once — even the change to silver — than leave us in perpetual dread of it." Surely, any adequate scheme of currency reform must undertake to remove just as far as possible this state of uncertainty, to make the gold standard really stable and sure.

A second requisite which any satisfactory monetary system must provide is the safety or security of its bank-note circulation. At first glance, it might seem as if this were included under the preceding requisite,—that is, the stability of the standard,—since, of course, the stability of the standard depends, in a large measure, upon the convertibility of the credit media of exchange. Yet, in fact, these two requisites of a sound currency may be quite distinct. To provide for the stability of the gold standard is to provide an order of things wherein the value of the dollar is continuously and unquestionably determined by a certain amount of gold. To provide a secure bank circulation, on the other hand, is to insure a state of things wherein all bank-notes under all circumstances are convertible into some form of legal tender. Now it is possible to have one of these two conditions without the other in either of two cases. First, when, as in this country to-day, there are several legal tenders, the security of bank-notes would be attained, provided there were no doubt of their convertibility into any one of these legal tenders, although at the same time gold might have disappeared and the greenback have become the standard. Thus we had from 1866 to 1879 a secure bank-note system. We did not have a gold standard. Secondly, even were there no legal tender other than gold, the gold standard might be maintained, while the notes of minor banks or of failed banks were at

a discount or quite worthless. It is, therefore, necessary to distinguish the providing for a secure, a safe, a convertible bank currency from the providing for a stable standard. The currency project which succeeds in furnishing the former requisite must insure such a state of things that the holder of the circulating note of any bank shall be certain of being able to get its face value at all times, and without any reference to the solvency of the particular bank which issues it.

A third object which the currency reformer must set before himself is the securing of greater elasticity in the monetary system, taken as a whole. Objection is occasionally made to the use of the term "elasticity" in this connection, but it seems to me very expressive and sufficiently accurate. Briefly defined, it means that property is a circulating medium by virtue of which it increases in quantity to correspond with increase in need and diminishes in quantity to correspond with diminution in need. For our purposes, it is convenient to distinguish ordinary and emergency elasticity. By the former is meant the capacity of any circulating medium to respond to those changes in monetary need which take place in the course of a single year, as between winter and spring or summer and fall. By emergency elasticity, on the other hand, I mean the capacity to respond to those changes in need which connect themselves with a panic. Doubtless these two sorts of changes in need differ, on the surface, at least, only in degree. Still, the causes are very different; and it is not unlikely that remedies also should be different.

Now it is probably unnecessary to occupy much time arguing as to the desirableness of an elastic currency. Over and over again, during the last few years, different writers have, on the basis of theory and statistics alike, called attention to the importance of this property. The variations in the need for money from year to year, from season to season, must be admitted; and, if the variations

in need are admitted, there is scarcely room for argument that corresponding variations in supply are highly desirable, since a failure of the monetary system to show such variations in supply to correspond with variations in need must bring about alternate stringencies and plentitudes in the monetary stock which will inevitably work much harm and inconvenience. Stringencies increase failures and embarrassments in business, cause much suffering and anxiety, and, in extreme cases, doubtless cause a decided depression in the level of prices. On the other hand, plentious conditions are apt to lead to excessive speculation, encourage the undertaking of impracticable or unprofitable schemes, and especially increase the difficulty of maintaining the standard money reserve by causing abnormally low rates of discount, and thus promoting the outflow of gold.

A fourth object which any satisfactory system of currency reform must seek to accomplish is the furnishing of more adequate currency and banking facilities for the outlying districts, for the villages remote from the great commercial and banking centres. From the South and West, particularly, there comes constant complaint of inadequate currency facilities. According to common accounts, this lack of money not infrequently is so extreme as to make necessary the resort to barter or the substitution for money of store orders or some similar device. When less serious than this, the lack takes the form of an insufficient supply of cash for loaning operations. Doubtless this difficulty is not a little due to a lack of capital. The districts in question are poor themselves, and the business opportunities which might attract capital from other communities are limited. No increase in the nation's supply of money, no increase in the facilities for banking, would make capital or money as abundant in such communities as in the great centres of trade. Still, there are doubtless removable causes which operate to aggravate a difficulty

arising from the natural circumstances. Thus it is a well-established principle of banking that country banking can flourish only with some power to issue circulating notes, since the country demand for loans is largely a demand for "money" loans. But our system practically prohibits the issue of notes by country banks, since it puts a prohibitive tax on State bank circulation, makes the minimum of capital for national banks so high that country villages cannot hope to establish them, and, finally, fails to furnish the natural substitute,—the small branch from the great city bank. It may therefore be set down as certain that the inadequate currency and banking facilities of the country districts are so far in need of amendment that this forms an important object of every plan of currency reform.

Doubtless there are several other objects of some importance which a project of currency reform ought not altogether to neglect, which, indeed, ought to be before the mind of the student in passing judgment upon any such project; such as the introduction of greater simplicity and unity into our system, the avoidance of any sudden and great change in the monetary stock of the country, the placating of the silver interest, the providing for a satisfactory scheme of bank organization, the insuring an adequate system of supervision. But within the limits of a single article it is out of the question to exhaust the subject in every phase. We shall content ourselves, therefore, with a consideration of the four more important objects set forth above.

As the reader will remember, one of the first tasks which the currency reformer must set himself is the giving of greater stability to the standard of value. It should be made as certain as possible that 25.8 grains of gold shall continue to determine the value of one dollar. In general, the expedients which have this object in view fall

into two classes. The one seeks to make more definite and strong the national purpose to maintain the standard. The other tries to improve the conditions for the carrying out of this national purpose. Continuing the analysis of this second process, we note that expedients working along this line must all be directed to the ultimate accomplishment of one object,—the shutting out of a premium on gold; for the presence or absence of a premium is the crucial test of the continued maintenance of the standard. There may be a disparity between different moneys, and yet gold continue to be the standard, provided the disparity takes the form of a discount on the inferior moneys rather than a premium on the standard money. But any appearance of a premium on standard money means that, for the moment at least, the standard has been overthrown. As a consequence, practically every expedient that can hope to improve the conditions for successfully carrying out the national will to maintain the gold standard must be directed to the exclusion of a gold premium. But, again, the prevention of a gold premium depends on our maintaining the convertibility into gold of other forms of circulating media, particularly of other legal tender media, when such exist. The moment gold ceases to be interchangeable for any legal money as such,—gets the status of a special sort of commodity which one has to buy with money,—a premium, large or small, must appear. But, in turn, convertibility depends on the maintenance within the country of a reserve of gold. Some institution, whether the Treasury or banks, must keep a stock of gold with which to supply those who need it in exchange for other forms of money or bank credit. This is a requisite of every system, and surely of our system, where there are at least two other legal tenders of inferior quality, which will inevitably establish themselves as the standard of value if not at every moment convertible into gold. It is hardly less a requisite even when

notes are not legal tender, since general suspension of specie payments—even when not authorized by law—almost inevitably results in the practical acceptance by the public of the bank-notes as legal tender and the appearance of a premium on standard money.

With this primary analysis in mind, we are prepared to consider the special methods which have been suggested for making the standard more stable. Of the various expedients which have as their object the fixing of the national purpose to maintain the standard, the first is the declaratory act.* Let Congress pass a law declaring that it is the intention of the United States to maintain the parity of all its moneys with gold. Against this device it may be argued that it has been done already in the silver purchase act of 1890, and, further, that mere declarations of purpose are of little value in any case, since the power that made them is always at hand to unmake them. On the other hand, it is to be said that a reiteration of the national purpose would surely strengthen the faith of the business world, showing the continuance of the same purpose after the lapse of seven years. Further, the contention that Congress could reverse such a declaration as easily as it was originally made is answered, at least in part, by the consideration that it is always more or less difficult to reverse a nation's policy, when once definitely declared. The sense of honor, pride in one's consistency, tendency to assume the rightness of what is,—these and many other social forces are the bulwarks of a policy once formally determined upon. In any case, this expedient could do no harm: it might be of some use.

A second and decidedly more promising expedient, which is proposed in one or more of the reform bills or projects now before the country, is to make the bonds and other obligations of the United States run in terms of

* Commission Bill (Indianapolis Monetary Commission), section 1. See the bibliographical note at the close of this article.

gold.* This would be almost decisive in fixing the national purpose to maintain the gold standard. Doubtless repudiation is always possible. But, on the part of the United States, it is in the highest degree unlikely. Once we have promised to pay the public debt and its interest in gold, there would be no going back without at least a serious and earnest effort to maintain gold payments.

Finally, the Monetary Commission recommends a formal decision of the country to pay out gold in exchange for silver.† Any action by Congress of this kind may seem improbable. But the country has at least had the advantage of an announcement by a former Secretary of the Treasury that he should feel bound to pursue this course, if it proved necessary as a means for carrying out the implied mandate of the act of 1890 to maintain the parity of the two metals.

Passing on now to the expedients proposed for carrying out more perfectly the national purpose to maintain the gold standard, we find a very large variety. As we have just noted, the immediate object of all such expedients must be the maintenance and proper management of the national gold reserve. At this point the various plans of reform differentiate according as they leave this task of maintaining and managing the gold reserve to the United States Treasury, as at present, or transfer it to some banking institution or institutions. Let us begin with reform plans of the first class. The various expedients of this sort naturally divide into two sub-classes,— those which try to render easier the task of the Treasury and those which better fit the Treasury for the performance of the task. But, again, there are at least three ways of making the task easier for the Treasury. First, we can so alter the conditions that there will be diminished demand for gold for hoarding or export. Secondly, we can so change things that in ordinary times the supplies of gold needed for the

* Commission Bill, section 2; Gage Bill. † Commission Bill, section 8.

satisfaction of this demand will be furnished from other sources, and so will not constitute a drain on the Treasury. Finally, we may so modify the currency arrangements that there will be naturally a flow of gold supplies to the Treasury.

Take now the first of these methods. What are the ways of checking the demand for gold? Plainly, the restoration of confidence would do much, since hoarding is entirely, and exportation largely, due to a feeling of doubt as to whether gold payments will be maintained. In this direction of restoring confidence would operate the expedients already referred to, such as the passage of a declaratory resolution or making bonds or notes payable in gold. In the same way, much would be gained were we to carry out the proposals to segregate silver and Treasury notes by putting the former in the place now occupied by bank-notes of smaller denominations, and shunting off the green-backs into the bank reserves, or into the Treasury as security or guarantee fund for the bank circulation,* or as a part of the reserve of the issue department.† Get silver and demand notes out of sight, particularly out of New York, and confidence would be greatly increased. Again, much help would come from the partial retirement of these forms of currency by the diminution of their stock to, say, two-thirds of the present amount. The business world cannot but regard the probability of a debtor's solvency as varying inversely as the extent of his outstanding obligations. Men would feel that our gold reserve could easily support four hundred millions of silver and notes, while six hundred millions might cause the structure to topple over.‡

A change of the utmost importance, which would work in the direction of making the maintenance of the reserve

* Carlisle, Eckels, Merriam, and others.

† Gage.

‡ The *Bankers' Magazine* (November, 1896, p. 499) proposes the reduction of amount of legal tenders to one hundred and fifty million. President Williams of the Chemical National Bank proposes reduction to one hundred million.

easier by diminishing the demand for gold, as well as in other ways, would be the furnishing of adequate revenues. During the troublesome period of borrowing through which we have passed, the presence of ample revenues in the Treasury would have practically compelled the Treasury to hoard the greenbacks which it redeemed with the proceeds of the various loans, and so would have caused a natural contraction of the circulation, which, in turn, would have checked the outflow of gold, and therefore greatly assisted in the maintenance of the standard. To meet this need for ample income, several schemes propose to give to the Secretary the power to make temporary loans.

The same would be the operation of any device for providing elasticity, especially contractility, in the currency, so that in dull times there would be a natural relief to that plethoric condition of the bank reserves which always tends to drive out gold. The particular expedients for attaining this elasticity we leave for consideration till we reach the subject of elasticity.

Such are some of the devices for rendering easier the task of the Treasury by diminishing the demand for gold. The second method of seeking this result was to shift the burden, to a certain extent, on other institutions,—to make the conditions such that other sources of supply will furnish, in part at least, the needed gold. As is well known, this was the state of the case almost entirely prior to 1892. The banks supplied the gold needed for export. As the general stock in the country outside the Treasury is larger than ever, the explanation of the failure of the banks to continue to do this work is not the lack of resources. It was chiefly due, no doubt, to the distrust caused by the purchase of silver and the correlated issue of new notes,—a distrust which has not yet altogether disappeared. Consequently, everything that works in the direction of increased confidence will tend to re-establish

the former practice. Here, then, the methods already proposed to restore public confidence again suggest themselves.

But it is possible not only to persuade banks to furnish at least some of the gold, but also to put some pressure with this end in view upon them, even though the task, in general, still rests on the Treasury. The banks must of course maintain legal tender payments to their various creditors, whether note-holders or depositors. Now it is quite possible to diminish the ease with which they can get possession of other sorts of legal tender. It is not necessary to retire all the silver to diminish the stock of the great central banks. As already noted, almost every scheme proposes the relegation of the silver coin or certificates to the small note circulation. Get it fully occupied in this way, and the chances are that the New York banks would see comparatively little of it. Similarly, the greenbacks would be shelved by any one of two or three plans requiring the banks to keep a considerable part of their reserves in Treasury notes* or to use them as a guarantee fund for the bank-notes (as in the Carlisle-Cox bill) or prohibiting reissue after redemption, except in exchange for gold. By these means it could be made somewhat difficult for the banks to get legal tender other than gold, and so far it would tend to compel gold payments.

If it should not prove easy to compel the banks to maintain gold payments by cutting off their supplies of other legal tender, these same measures would at least make it much more difficult for the banks to get hold of Treasury notes with which to draw off the Treasury's gold, and thus would bring upon the banks considerable pressure to furnish, themselves, the gold demanded by their customers for export. Doubtless the banks could re-

* "Treasury notes" is used throughout this article to designate government paper, whether greenbacks or the Treasury notes of 1890.

fuse to do this; but it is not likely that they would do so, since they would have every reason to dread the possible appearance of a gold premium.

A third class of expedients for making easier the task of the Treasury in maintaining the reserve is to provide that the gold stock of the country shall naturally gravitate towards the Treasury. When one considers the great dimensions of this stock and the very small portion of it which is in actual use as a medium of exchange in the ordinary sense, it seems certain that our failure to make easy work of maintaining the gold reserve must be due not to the lack of gold in the country, but to some failure on our part to make the most economical use of what we have. Now, plainly, the most economical way to use gold is to withhold it from uses where other moneys will do just as well, and devote it to the particular task which it alone can perform. Applying this principle, it surely would be wasteful to extend the use of gold as the ordinary medium of exchange, since people do not like it for this purpose and, besides, have something else for that work. Again, it is wasteful to use the gold for bank reserves, since banks are not obliged to pay gold, but only legal tenders of some sort; and of such legal tenders there are others less important than gold, which will answer the purpose of the banks just as well. But a use for gold which is not wasteful, because absolutely necessary, is to keep up the standard money reserve, the maintenance of which is so plainly essential to the maintenance of the standard of value. These propositions being admitted, it plainly follows that the system should be so constructed — the channels of the circulatory system so adjusted — that the supplies of gold shall naturally flow into the Treasury which has the keeping of the reserve. Now it is needless to say that this is very far from being the case. Just now, indeed, the Treasury stock is growing. But, in general, during the last five years, it has been necessary

to make great and constant effort to keep a fifth of the gold stock with the Treasury. Surely, this is wrong. How shall it be remedied?

In answering this question, we naturally begin with another. Where does the gold go that does not get into the hands of the Treasury? The answer is, into hoards and bank reserves chiefly. And how shall we change its direction? As regards the hoards, nothing would avail so much as unquestioning confidence in the stability and permanence of the gold standard. Few people would hoard gold, had they no thought that it would go to a premium. The devices already suggested for this object of securing confidence will tend to release gold from hoards. Further, restored confidence would diminish the tendency of the banks to discriminate in payments to the government, as they do now, retaining the gold and paying over Treasury notes or silver.

But, again, the bank reserve must be made to yield its supplies of gold. And this, as remarked in another connection, is very easy. Thus several of the reform projects provide that the banks shall be required to keep the larger part of their reserves in Treasury notes. Doubtless the banks will object to this. Their position is a very favorable one. Reserves—idle money—they must keep. On some hundreds of millions, therefore, they lose interest in any case. Now these reserves they are at liberty to keep in the form of gold; yet they are permitted at the same time to discharge all their obligations in other legal tenders, paper or silver. Thus they are by law placed in a position to reap all the advantages of hoarding gold without accepting any of the burdens or obligations belonging to such a position. Either require them to maintain gold payments or to release the gold. Of course, this does not mean that they shall be prohibited from hoarding gold, as any one else would,—that is, outside their reserves. If they think the chance of gain great

enough to offset the loss of interest, let them keep all the gold they please. But we may be very certain that they will do little hoarding of this sort.

We ought hardly to leave this point without commenting on one objection which is offered to this plan,—that to require a fixed proportion to the reserve in Treasury notes would perhaps destroy the expansibility of the bank circulation, since the amount of greenbacks is rigidly fixed. This difficulty is not, I fancy, very serious. No legislation is final. A readjustment of the proportion between the greenback and non-greenback portion of the reserves could easily be made,—might, indeed, be left to the discretion of the Comptroller.

Another device incorporated into several bills by which the gold would naturally be shunted towards the Treasury is to retire the gold certificates. These make it easier for banks to hold gold, and so increase the likelihood that they will do so. If they had to store and handle the metal itself, it is probable that they would prefer the greenbacks, and would therefore turn over the gold to the Treasury in exchange for greenbacks. This device has, however, already largely expended its capacity for doing good, since the action of the Treasury in discontinuing the further issue of gold certificates has already retired the major part of this form of paper.

We have now considered some devices for making the task of the Treasury an easier one. We must next see how it has been proposed better to fit the Treasury for the performance of that task; for, of course, it is impossible to provide automatically working conditions which will entirely satisfy the case. Conscious, rational interference is at times inevitable. The keeper of the reserve must consciously endeavor at times to check the outflow of gold, and at times to stimulate the inflow. Where the banks attend to the work, they have devised an elaborate system of expedients to accomplish these ends. If, with

us, the Treasury is to continue the performance of this function, it should be organized as far as possible for that purpose, and provided with adequate machinery.

This necessity is more or less fully realized by all reformers. The first thing needed is evidently the separate organization of an issue department having special functions and powers in this matter. To go at least as far as to make the reserve inviolable has been repeatedly proposed, and is contained in the Brosius bill still before the House of Representatives. The plan of Secretary Gage, as also that of the Monetary Commission, goes still further, and formally provides for a separate department to have charge of this matter, with authority to issue bonds, convert the note issue into bonds, and *vice versa*. Some step toward organizing a separate department is plainly almost indispensable. The Treasury department is a political department. Its business is not the best regulation of commercial affairs, but the providing for the fiscal needs of government. The regulation of the circulating medium should be entirely unhampered by the needs of the government for revenue. Practically, the gold reserve has been repeatedly spent to pay the every-day bills of the country, instead of being devoted to its proper function of the maintenance of the standard. Probably the administration had no option in the matter. But the law surely should be so changed that such a thing may not occur again.

But, supposing a separate issue department established, provision should be made for enabling it to discourage the outflow and to encourage the inflow of gold. It would probably have the power to use the so-called premium policy, making some special charge for gold bars higher than for coin. The Treasury at present—as I understand it—refuses to give bullion. A much more important provision was proposed by Mr. Jordan in his hearing before the Committee on Currency and Banking,

that the Secretary should have power to issue bonds to draw off and hoard the surplus supplies of money on the New York market, and so raise the rate of discount and check a gold drain.* This is substantially the policy used by the Bank of England in recent years, whereby she borrows upon consols the free money in the City, and so compels other banks to raise their rate of discount to correspond with her own official minimum.

This hoarding of greenbacks, as provided for above, would also act to hinder the outflow of gold by making it difficult for the banks to get hold of the greenbacks with which to draw out the gold, and so putting some pressure on them to furnish the supplies themselves.

Most plans of reform, which anticipate even the temporary continuance of the Treasury in the business of keeping the reserve, further provide for the building up of the reserve, when necessary, by borrowing. This seems highly desirable, since the laws under which loans are now made provide for too high rates of interest.

Thus far it has been assumed that the protection of the ultimate reserve is to rest upon the Treasury, and we have passed in review the schemes which try to improve matters with this condition present. But, of course, a large number of persons look on this method of operation as highly inexpedient, and many reform projects propose the other alternative; that is, the transference of the task to some banking institution or institutions. We must, therefore, go on to consider plans of this general character. Here several distinct questions arise. First, is the plan of putting the burden on the banks better? Secondly, if so, under what general conditions, especially as respects other legal tenders, shall the banks be required to do the work? Thirdly, by what processes shall the transfer of the burden to the banks be made? Finally, how shall the banks be organized for this purpose?

* *Hearings of 1894*, pp. 471, 474.

Taking up, now, the first question as to whether the task should be thrown on some banking institution or institutions, it is hardly necessary to remark that the great majority of the projects of reform answer this question in the affirmative. Sooner or later, covertly or openly, the Treasury is to go out of the business of maintaining the gold standard.

The arguments for and against this course are so familiar that it is hardly necessary to repeat them here. It can scarcely be doubted that, other things being equal, a good system of bank maintenance of specie payments would be better than a good system of Treasury specie payments. The only question is as to whether any system for bank maintenance which it would be possible for us at the present time to adopt would be as good as even the present Treasury system. I confess myself inclined to resolve the doubt in a negative. I fear the conditions will fail in three particulars. First, we shall not be able to provide a single bank or confederation of banks to which the task can be assigned, and I doubt if anything less would be satisfactory. Secondly, it is certain we could not retire silver; hence the banks would have to maintain the parity, not only of their own notes, but also of four hundred millions of silver. Thirdly, I doubt if we can retire any large portion of the legal tender notes, so that the banks would have to maintain the parity of these also. They might be able to do both of these things. But I doubt whether, in any case, they would be willing to try.

But let us suppose that the decision is reached to retire the legal tender notes, and, the government being out of the business of maintaining the reserve, to transfer that task to the banks. The second question then comes to the front, under what conditions as to the currency in general the banks shall be required to do the work. It is frequently implied in current discussions of the matter

that the banks will be obliged to maintain the parity only of their own notes,— that, besides the gold, only these notes will be in circulation. As a matter of fact, however, such simplifying of the conditions is wholly impracticable. At least, a large amount of overrated silver will have to be left in circulation, and will have to be kept at a parity by some one. Indeed, it is possible, from the theoretical standpoint, to impose the task on the banks under any one of several conditions. (a) We might oblige the banks to maintain the standard of value under substantially the conditions existing at present; *i.e.*, with a large volume of Treasury notes out, in addition to four or five hundred millions of silver. That is, we might oblige the banks to carry not only their own credit paper, but also that of the government as well as the silver. (b) We might go to the opposite extreme, and retire all credit money except bank-notes, so making the job comparatively easy. Again, among the various possible middle courses, (c) we might adopt the one of retiring the Treasury notes wholly, leaving only the silver to be carried in addition to their own notes; or (d) we might retire the silver, and leave the Treasury notes to be carried by the banks; or (e) we might reduce in amount the silver and notes, leaving the rest to be carried. Of these five courses, neither the first, second, nor fourth has been seriously proposed, so far as I remember. The third is the one most commonly favored,— retire the notes, but leave the silver, though perhaps with some provision to render it as harmless as possible.* This is the condition of things in both France and Germany. In each of those countries the central bank must sustain not only its own notes, but also a large volume of overrated, full legal tender silver. Experience is, then, on the side of this plan. Nevertheless, I am inclined to the fifth course indicated above, on the grounds that it alone has any

* Make room for the silver by the retirement of bank-notes under \$10.

chance of adoption, and that it will work probably as well as the last one considered. Reduce the government paper or the silver or both to such volume that the two together will less than satisfy the minimum needs of commerce,*—i.e., so that there would never be a plethora which could not be relieved by the natural contraction of an elastic bank circulation,—then require the banks to provide the gold necessary to maintain the parity of all forms of currency.

So much for the general conditions under which the burden of maintaining the standard may be thrown on the banks. The next problem for the legislator is to settle the process of making the shift. On the surface, two general solutions present themselves: first, the simple decree of the law; and, secondly, the establishment of conditions which will automatically bring about the result. The former method would plainly have to be adopted if the Treasury notes are kept out, since, unless required to do it themselves, the banks could more or less throw the burden on the Treasury. So far as I remember, this method is not favored in any bill except that of Congressman Walker, which seems in section 50 to require the banks to maintain the parity of gold, silver, and notes even before the complete retirement of the greenbacks.

If it be decided that the Treasury notes shall be retired,† this would plainly put the task of maintaining the reserve on the banks without need of formal decree. This is the method used in most of the bills before Congress.

If this general plan of making the shift be adopted,

* The total volume of inelastic money should be considerably less than the minimum needs of the country, since there should be a considerable quantity of bank-notes out even after the needed contraction has taken place. Otherwise, banks scarcely could afford to take out circulation.

† This is done in substance by the Walker bill, since it substitutes for Treasury notes a joint bank and Treasury note which the issuing bank must redeem in gold.

some further definition of the process will be necessary. Two or three questions will require settlement. Shall the retirement of government notes be gradual or immediate? Shall bonds be employed, or surplus revenues depended upon, or both? Shall the retirement be open or covert? Most reformers promptly decide for gradual retirement. This is probably to be commended as being the safest course, as also the one least likely to arouse an adverse public sentiment. The second question, as to whether bonds or surplus revenues shall be used for the retirement of the greenbacks, is usually decided in favor of bonds. In support of the opposite decision (the use of surplus revenues) it is to be said that this, like gradual retirement, has the best chance of success, since it cannot be doubted that a large number of voters are unalterably opposed to any further increase in the bonded indebtedness of the country. However foolish their feelings may seem to men of larger views who appreciate the great resources of the land and the importance of a stable monetary system, the fact still remains that these feelings exist, and must be reckoned with.

The question, Shall retirement be open or covert? is again differently answered. Probably a majority of the bills which retire government notes at all do so openly. A few, however, choose the other alternative. The Carlisle-Cox bill is, naturally, to be interpreted in this way. On this plan an amount of greenbacks equal to 30 per cent. of the bank circulation must be deposited in the Treasury as a guarantee fund. This is equivalent to practical retirement for so much of the Treasury issue as is thus employed. The plan of Congressman Walker goes further. It substitutes for the present government note a joint Treasury and bank note. The Treasury is thus apparently obligated as much as now. Further, the name "greenback" is retained, and the legal tender quality also. Still, the Treasury note has disappeared;

for the joint obligation of the Treasury on this note is purely formal. The banks are required, under heavy penalties, to redeem these notes on demand, and are expressly estopped from pleading in bar of legal proceedings against them in case of failure to do so that the note is a United States note. Considered as a burden, then, the notes, as government notes, have been retired, in so far as they are exchanged for these joint bank and Treasury notes.

The fourth problem suggested by the proposition to transfer the maintenance of the ultimate gold reserve to the banks—how the banks shall be organized and equipped for this work—is not very well answered in any of the plans of reform. In fact, reformers do not seem to realize the serious nature of this problem. Get the Treasury out of the business, and all will be well, is, apparently, the thought. Consequently, very little provision is made to insure that the banks shall do a good job. Two or three bills require the keeping of more or less gold in the reserves. But, so far as I remember, only the Walker bill provides for getting the gold where it will be needed, by allowing the keeping of coin reserves in such places as are approved by the Comptroller of the Currency. No bill provides for the organization of the banks for the object of protecting the reserve.

We have now passed in review the various devices which have been proposed for securing the greater stability of the standard of value. Our next task is to consider the expedients offered for insuring the security of the bank-note circulation. As remarked earlier, the thorough security of the bank circulation requires that any holder of any bank-note shall be certain of being able to exchange it at all times for some legal money, without reference to the status of the issuing bank. This degree of security we possess at the present time, and we

can scarcely be content with any less. What, now, are the various methods, in the several projects, for attaining this degree of security, or, at least, a sufficient degree of security? These methods are chiefly of four sorts, namely: (1) guarantee by some responsible third institution; (2) collateral security at least equal to the value of the notes issued; (3) insurance funds; (4) adequate redemption facilities. A few minor devices scarcely admit classification.

Among the expedients of the first class the most important is that now in vogue,—government guarantee. This is, doubtless, the most satisfactory of all devices to give security; and, with adequate provisions to insure the government against loss, there seems to be no good reason against its continuance. Besides government guarantee, there have been proposed guarantee by Clearing House Associations specially authorized* and guarantee by the whole system of banks. These guarantees, though better than nothing, would plainly be far inferior to that of the United States Treasury. If a guarantee plan of some sort is provided, several of the other methods of furnishing security naturally cease to be devices for securing the note-holder, and become methods of insuring the guarantor against loss. This is, plainly, the case with bond security to-day, as also with first liens. The same would be true of the safety fund in the Baltimore Plan.

The second class of expedients for furnishing collateral security differ both as to the sort of securities chosen and as to the institution appointed to keep the securities. On the first basis, two chief classes appear,—bond securities and ordinary assets in the form of commercial paper. The bond securities, again, may be either national bonds, as at present, or the bonds of any public corporation, or the bonds of private corporations. Of the projects now

* Gilman Bill, H. R. No. 3338. Jordan's plan, *Bankers' Magazine*, December, 1894.

before the country, none depend chiefly on bonds other than national; but the bill of Mr. Walker provides for an issue of this sort for emergency purposes, no specifications being made as to the bonds except that they must be approved by the Secretary of the Treasury. The Indianapolis Commission bill involves the employment of ordinary assets for all issues above 25 per cent. of capital. Some others use these only for the emergency part of the circulation. As respects the keeper of the securities, some plans designate the national Treasury; others, some Clearing House Association; and others, still, the issuing bank itself, the securities to be treated as a special asset. It will probably be a long time before the American mind will be satisfied with the last plan, which may do well enough in dealing with a single great bank of well-established traditions, like the European banks, but would seem an ineffective method of dealing with several thousand isolated banks. As between the Treasury and Clearing House Associations, the former is most often preferred, though some plans of reform combine the two methods, using the Treasury for one kind of notes, the clearing-house for another.

The third method of insuring a secure note circulation is the maintenance of an insurance or safety fund. This is the well-known expedient embodied in the New York law of 1829, and at present in vogue in Canada. It is used in the Baltimore Plan, the Cox bill, and others. It is naturally associated with the general plan of permitting issues upon credit. It is believed to be able to furnish adequate security; and, of course, it permits greater elasticity.

The fourth general method of providing adequate security, the furnishing of satisfactory redemption facilities, is not offered by any one as an expedient to be used alone, but rather as auxiliary to other expedients. Its value consists in the fact that a circulation which is being con-

stantly redeemed, so that each note has a life only a few days, can scarcely become very insecure. The risk of being left with a note of a failed bank in one's hands is relatively small. Generally, the weakness of a bank is more or less known for some time before its doors are closed; and, with clearings of its notes three or four times each week, as in Scotland, the note issue might easily be reduced to a very small amount before the crash came.

In order to secure this condition of frequent redemption, two things need to be done. Adequate machinery of redemption must be had, so that there will be no obstacles of a mechanical sort. Secondly, there are needed some provisions to secure the use of the redemption machinery. As regards the machinery of redemption, at least four expedients are proposed by different advocates of reform: (a) redemption at the Treasury, as at present; (b) redemption at the sub-treasuries; * (c) removing Comptroller's office to New York City; (d) redemption at special agencies in the reserve cities. The inadequacy of the first is sufficiently demonstrated by the failure of our present system. The second is really in vogue to-day, and is not doing very well; though this may be due to the lack of a general understanding on the point. The third, when combined with the second, is decidedly promising, but is favored by only one or two bills. The fourth is probably most hopeful of all, in spite of the fact that it did not seem to work very well during the first period of the national bank system.

When it comes to making motives for the effective employment of the redemption machinery, the different projects are somewhat lacking. It is frequently argued that there is sufficient motive in the self-interest of each banker, which leads him to send home the notes of other bankers that he may make room for his own. It seems to me that

* This is already carried on, according to Carlisle, *Hearings of House Committee*, 1894, p. 20.

this notion is not confirmed by experience. The present machinery is, indeed, somewhat cumbrous. Still, it is not so bad but that, if the banks felt any earnest desire to send home the notes of other banks, they could do so now.* Something more, then, seems to be needed. The plan of Mr. Foster is the most promising. It is to require any bank which comes into possession of the notes of another bank outside the district where the first bank is situated to return said notes to the clearing agency of the issuing bank. The scheme of Professor Dunbar in the *Quarterly Journal of Economics* for October, 1897, contains substantially the same provision.

A number of lesser devices for insuring the security of the bank circulation can only be mentioned. They include the limiting of the amount of notes issued, the giving to note-holders a first lien on assets, also frequently a first lien on stockholder's liability, limiting the right of issue to banks having considerable capital (at least \$200,000), limiting the issue of notes to higher denominations, as being easier to watch,† and the like.

We have now to consider the various methods of accomplishing the third object of currency reform; namely, the securing of elasticity. In setting forth these expedients, it is convenient to distinguish, as earlier indicated, ordinary and emergency elasticity, and again, under each head, expansibility, on the one hand, and contractility, on the other.

For securing ordinary expansibility the devices are fairly numerous, and divide into palliatives and radical cures. The palliatives are chiefly these: (a) Increase the ratio of circulation to deposited bonds,—make it, say, 100 instead of 90 per cent. of par value. (b) Reduce tax on

* I give perhaps too little weight to the consideration that, if the issue of notes were made more profitable, the motive of each bank to return promptly the notes of other banks would be much strengthened.

† Leland, in *Popular Science Monthly*, 1887.

circulation to $\frac{1}{2}$ or $\frac{1}{3}$ of 1 per cent. (c) Require the Comptroller to keep on hand blank notes for each bank, so as to expedite the process by which the notes may get into circulation. (d) Repeal section 9 of the act of 1882, which prohibits the expansion of note issues for a period of six months after any have been retired, and limits the amount which can be retired during any one month to three millions.

Of more radical measures, four have been most favored. (a) Increase the supply of national bonds by funding demand notes. (b) Accept from the national banks, in lieu of national bonds, other securities, State, municipal, or corporation. (c) Repeal the tax on State bank circulation, thus permitting an issue governed by far more liberal provisions than those under which the national banks operate. (d) Grant to the banks the power of making an issue more largely of a credit character, not covered by collateral security, but only backed by an insurance fund.

The first method of operation plainly stands or falls with the decision as to whether demand notes shall be re-tired. Plans of the second sort, permitting the substitution of other collateral for the national bonds, are not in favor, since they do not go far enough to satisfy the bankers, and yet go too far to be acceptable to a conservative public. As already remarked, the Walker bill follows this general plan as to a part of the notes issued. So also does the Gilman bill. The third method, repeal of the tax on State bank issues, seems to me thoroughly unsafe. Doubtless many portions of the country which once gave us much trouble with a wildcat currency could now be trusted. But there are still districts which could not be, which are in much the same stage of evolution industrially and politically as were the offending States of the forties and fifties. In any case, even with good banks, discounts upon notes were common away from home. We want nothing more of this sort. From the standpoint

of the banks, as well as from that of banking science, the fourth method is the natural one. Provide for the issue of a real credit currency, one based on the confidence of the industrial world in the good management and general solvency of the banks. This plainly permits an expansion which is at once far greater and far more prompt, since it does not involve an equal investment of capital for every dollar issued, and gets rid of a cumbrous process of issue. It is the method of the well-known Baltimore Plan, of the Cox bill, of the Warner bill, and several others.

When we come to the matter of contractility, we find the various projects of reform much less satisfactory. A few bills make thorough work of it. But, in general, the American legislator finds it hard to realize that power to contract is quite as important as power to expand. Our discussion at this point has really been anticipated in the study of redemption expedients as connected with providing for the security of the bank circulation. A brief recapitulation and the addition of one or two items are all that is necessary.

To secure adequate contractility, we need two things,—suitable machinery through which to work the process of "homing" the notes, and adequate motive to induce the use of the machinery. This last would include the neutralizing of motives which tend to keep the notes out. By way of machinery, as we have seen, the most important thing is to offer better and more accessible redemption facilities, as at the reserve cities, through the ordinary clearing-houses; the plan of Mr. Foster, as we remember, being particularly effective in that he divides the country into redemption districts for facilitating the redemption process.

As regards methods for insuring that the machinery shall be used, and particularly by the note-holder, Mr. Foster's scheme is again the best, in that it requires any

bank holding the notes of a bank outside its own district to return such notes to the clearing agency of the issuer's district. Along this same line would act the provision proposed by Mr. Ripley before the House Committee in 1894,—that national bank notes should no longer be legal tender between banks.*

To furnish motive to the issuer to utilize the machinery of withdrawal, the different projects make more effort. Here the devices are numerous. They naturally divide themselves into two classes, according as they are directed to removing the inclination of the issuer to insist on keeping his notes out, or, on the other hand, as they seek to create a positive disposition earnestly to seek their withdrawal. Of course, the very first thing to be done—and most projects do this—is to repeal the provisions of the present law which discourage contraction (section 9 of the act of 1882, which limits the retirement of notes to three millions in any one month, and prohibits reissue until six months after retirement). Another method of attaining the result is to make the expense of issue less or the profit of issue greater, so that it will not be necessary to keep the notes out all the time, in order to cover the expense of issue. Any method of making the process of reissue less cumbrous would have the same tendency, the bank not being obliged to keep the notes out all the time to save trouble. In this direction will operate the keeping of blank notes on hand.

If now we seek to create a positive disposition on the part of the issuing bank to insist on withdrawal, the natural device is a tax. This tax may appear in the form of a simple levy or a graduated tax. In their anxiety to make the scheme sufficiently expansive, most of the bills give up the tax as a means for securing contractility, at least as applied to the ordinary circulation. Perhaps this

*Also Professor Dunbar, in *Quarterly Journal of Economics*, vol. xii. p. 21. Kinley's *Independent Treasury*, p. 263.

is true of them all. The bill of Mr. Foster, however, provides for a graduated tax which really uses the device for ordinary circulation, since it begins at a point so low (1 per cent.) that it would operate to permit, and doubtless is intended to permit, the use of the issues thus taxed in ordinary times. From the purely theoretical standpoint, this system seems decidedly the most promising of all. Possibly, in practice some serious drawbacks might arise.

Passing on now to consider the methods of securing emergency elasticity, two courses present themselves as open to the reformer. He may plan to give this property of elasticity either to the Treasury notes or to the bank-notes. Most schemes — perhaps all now before the country — choose the bank-notes to work upon. It ought not, however, to be forgotten that it is perfectly possible to accomplish the desired result through the Treasury notes; and, in earlier reform agitations, this has been urged. As far back as 1872 Comptroller Knox suggested the issue of interconvertible bonds, as they were later designated by Secretary Windom, who made a similar proposal in 1890. By this scheme the Secretary was to issue low-rate bonds, which could be converted into Treasury notes on demand, the notes, in turn, to be convertible into bonds whenever desired, and so on, indefinitely. This certainly promises to furnish a highly efficient and entirely automatic method of securing elasticity. The low rate of interest would insure that the bonds would be brought in to exchange for notes, whenever money was scarce and discount rates high. On the other hand, a plethoric state of the currency, leading to an excessively low rate of discount, would at once be relieved by the turning in of the surplus notes into the Treasury in exchange for bonds, since at such a time, plainly, even low-rate bonds would be worth more than money. There seems no reason to doubt that the exist-

ence of such a provision during the months following the panic of 1893 would have greatly relieved the situation. However, of the many plans for reform now before the country, no important one, certainly, proposes the use of this device.* Almost every reformer, in trying to secure emergency, as also ordinary elasticity, sets to work through the bank circulation.

In considering the different plans for securing emergency elasticity through the bank circulation, we again distinguish expansibility and contractility. The various methods of attaining expansibility involve several particulars,—the status of the note, the basis of issue, the limit of issue, and the machinery of issue. As to the status of the note, most plans deny to it any special legal tender character: thus the Baltimore Plan and the Foster bill. The Walker bill, however, provides in section 17 for the issue to banks and the National Clearing House Association of a legal tender circulation, which is plainly intended as an emergency circulation, since it is subject to a higher tax. On the surface this provision seems best calculated to furnish what is wanted to allay the panic. The presence of a legal tender provision insures that the note will do the work, and hence it must operate in the strongest way to pacify the public mind.

As to the basis of issue. The Walker bill uses for the emergency circulation securities approved by the Secretary of the Treasury. The Gilman bill depends on securities deposited with and approved by the Clearing House Association. More liberal schemes rely only on the credit of the bank; as the Fowler bill, which permits credit issues up to the par value of the stock, but subject to a graduated tax.

The limit of issue ranges from 25 per cent. of capital in the Baltimore Plan to such amount as the Secretary of the Treasury may decide upon in Walker's bill. As to

*Section 11 of the Commission bill makes possible the use of this power.

machinery, some depend on the Comptroller of the Currency, some on the clearing-houses. The latter plan seems to offer the greatest probability of prompt and effective action, since the clearing-house is in constant and close touch with the banking world.

To secure emergency contractility, the methods already considered under ordinary elasticity would of course be employed. To increase the inclination of note-holders to hurry the note in, Jordan proposes a premium for their return. This is to be made progressive, to insure promptness. It seems to me that to make it regressive would be better. Lower the premium each month, and let it disappear altogether in, say, six months.

To increase the inclination of note-issuers to withdraw them, the tax as before is employed; but it is pushed much further. Mr. Ripley proposes a tax increasing with the lapse of time.* The Foster bill divides the notes issued on credit into five equal portions, and, beginning with 1 per cent., doubles the tax on each successive portion issued, making the final tax 8 per cent.

The fourth object which every currency reformer must set before himself is the furnishing of better facilities for the country districts. For this object three chief expedients have been proposed. First, it is still urged, particularly by the representatives of the South, that the 10 per cent. tax on State bank circulation should be repealed, and thus the petty little banks all over the land be allowed to issue a local circulating note. In favor of this scheme it is said that these are the only banks that can flourish in remote country districts, and hence the only banks that can furnish a circulation, if these districts are to have one; that, further, the very badness of these notes, their lack of universal acceptability, makes them more desirable for the districts in question, since there is

* *Yale Review*, November, 1892.

no danger of their going very far away from home or of their being sent to the great reserve centres. They are thus much more useful to the localities which issue them. On the other hand, it is probably to most minds an insuperable objection to this plan that it tends to restore the old complexity and uncertainty in the bank-note circulation, when every man doing business had to consult the bank-note detector for every transaction. It does not seem probable that this expedient has any chance for adoption.

(2) The second method for accomplishing this object is to lower the minimum of national bank capital. At present this minimum is \$50,000. Various bills before Congress in recent years have proposed to lower it to either \$25,000 or \$20,000. As has recently been shown in the *Quarterly Journal of Economics*,* this change would not materially help the matter,—at least, would not anything like completely accomplish the desired result, since, in those States which most need an increased country circulation, most banks have a capital considerably under \$20,000, so that the minimum would have to be much lower in order to meet their needs. It is, further, to be said against this expedient that the issue of notes is too delicate a function for the small bank, which is almost inevitably manned by relatively inexperienced persons, and which, on account of the smallness of its capital, cannot give an adequate guarantee.

(3) The third expedient, which has been much urged of late years, is the branch bank system. By this method, already existing banks would be authorized to establish branches with very small capitals wherever they choose, or, at least, within certain specified districts. This scheme would have several marked advantages. The system of parent and branches would furnish a natural circulatory system through which the capital of the great

* October, 1897.

centres could be conveyed to the remotest districts; the managers of the village bank could easily be persons having experience, training, and knowledge of the banking business; the notes would be backed by large resources in capital, and hence far better secured than if issued by small, independent village banks. Probably, this third expedient would be most generally approved by specialists. As a matter of politics, however, it is more likely that the second will be adopted.

We have now traversed in some fashion the ground laid out at the beginning of this study. We have briefly considered the most important objects of currency reform, and have set forth somewhat more fully the particular expedients which have been proposed for accomplishing these several objects. For the sake of greater completeness, I had at first hoped to devote a few pages to the consideration of projects of reform as organic wholes, and, in particular, to summarize and comment upon the most conspicuous bills now before Congress; but space limits forbid any attempt to carry out this plan. I must content myself with the hope that this study of objects and methods will prove of some value in that preparatory training which will enable the student easily to comprehend particular plans of reform, and so will tend to render a special treatment of such plans comparatively needless.

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BIBLIOGRAPHICAL NOTE.

The matter published upon the general subject of Currency Reform is, of course, too abundant to justify any attempt to present an exhaustive bibliography. This note merely furnishes the student with references which give in full different projects of reform. Most of the bills which have been introduced in Congress can be found in the *Reports of Hearings before the House Committees on Banking and Currency* of the 53d and 54th Congresses. A number have been

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NOTES AND MEMORANDA.

SAMUEL BAILEY ON APPRECIATION.

IT may be of interest to economists, and perhaps also of some profit, to become acquainted with the remarkably clear and logical analysis of the causes and effects of appreciation, published early in the century by the English philosopher and economist, Samuel Bailey.* As Bailey's work is probably not only little known, but also in general difficult of access, I need make no apology for quoting from it somewhat at length.

In the course of his discussion on "The Effects of Variations in the Value of Metallic Money on Pecuniary Contracts," Bailey says:—

In the case of a pecuniary loan, four changes may take place affecting the contracting parties:—

1. Money may rise in value, in relation to other commodities, from an alteration in the market, originating on its own side.
2. It may fall in value from a similar cause.
3. It may rise in value from an alteration on the side of other commodities.
4. It may fall in value from such an alteration.

Of these cases the first and second have had abundant discussion from economists, nor does Bailey offer anything new or peculiar. The third and fourth cases have been less fully discussed, and what Bailey says of them is especially deserving of attention. To make clear the course of his reasoning, it will suffice to state very briefly his treatment of the first case, and then to consider more fully that of the third case, as typical of the second pair. I will use Bailey's own language freely:—

1. To ascertain the effects of the first occurrence, suppose that A. lends B. one hundred pounds in the year 1830, and B. repays the same in

* *Money and its Vicissitudes in Value; as they affect National Industry and Pecuniary Contracts: with a Postscript on Joint-stock Banks.* By the Author of *The Rationale of Political Representation, A Critical Dissertation on Value, &c.* [Samuel Bailey]. London, 1837. 8vo, pp. 224.

1840. In the interval the difficulty of obtaining an adequate supply of gold has increased to so great a degree that the same quantity of metal will purchase double the quantity of other commodities. When, therefore, A. receives back the sum lent, he obtains, indeed, only the same quantity of money; but that quantity has double the power in the market. He is, therefore, a fortunate man.

B., on the other hand, has to pay what A. receives. . . . Through the whole process of the fall of prices, he is continually losing, obtaining less and less for his commodity, and having to pay the same sum for the use of the money. At the expiration of the ten years he will probably have lost a considerable part of the original hundred pounds which he borrowed, and will have to repay the loan to A. by a sacrifice of his other property or by a tax on the products of his future industry in the shape of an annuity, or interest. . . . The whole affair resolves itself into a transfer from one to the other.

That such an appreciation would have a harmful effect directly upon industry itself, Bailey demonstrates in another place. Industry in general is crippled, because the progressive element, "the industrious capitalist," is subjected to an increasing burden as regards his fixed charges of all sorts and to a constant depreciation in the value of his stock, and because of "that want of confidence which always attends a general lowering of prices."*

3. The third case to be considered is a rise in the value of money from a change originating on the side of other commodities. Suppose the facility of producing all commodities except gold were so increased that they could be supplied at prices 50 per cent. lower than when A. lent the one hundred pounds to B. What would be the effect on the parties to the contract?

In regard to A., the lender, the effect would be the same in many respects as if the increased value of money had arisen from circumstances acting directly on the precious metals. He would be enabled at the end of the term to command double the quantity of commodities. He would not, however, be able to command double the quantity of labor; and there might be a few other cases of exception.

To the borrower, B., the effects of a reduction of prices in this case would be very different from those in the other. In the supposed fall of prices from a deficient supply of the precious metals, he was obliged to sell his commodities for a low price without a proportionate diminution in the cost; but now he sells them at a less price only because they cost him less. The fact of their costing him less implies that he has invented or adopted improved methods of production; and it is probable that these

* See pp. 82, 83, 87, 111-113.

new methods have enabled him, at the outset at least, to obtain extraordinary profits. The fund, therefore, out of which he has to pay interest on the loan is, on the least favorable supposition, undiminished, and in all likelihood increased. But there is still another advantage which he possesses in this case beyond what he possessed in the former one. Then, although the prices of the commodities which he personally consumed, fell in the same proportion as the commodity which he prepared for market, yet, his profits being more than proportionally reduced, he could no longer command the same quantity of such commodities out of his net residue; now, not only the prices of commodities are proportionally reduced, but his net residue remains undiminished or is even augmented, so that he can command a larger quantity of desirable articles.

In this case, therefore, while A., the lender, obtains a great advantage, B., the borrower, sustains, at the worst, no loss,—nay, even participates in the general gain.

In the former instance of a rise in the value of money originating on its own side, there was no fund out of which A. could gain, but the loss sustained by B. and others. Here, on the contrary, there is a fund out of which both draw an advantage; namely, the increased quantity of commodities produced by the same quantity of labor. Of these commodities they both simultaneously obtain a greater portion.*

Now what has actually taken place of late years in the western world is a realization of Bailey's third case. Speaking in round terms, there has been no diminution in the quantity of metallic money either absolutely or relatively to population. If we take into account the devices which economize the use of specie and multiply its effect, the quantity of money has greatly increased. Nevertheless, there has been a marked general fall of prices, or appreciation of the money unit, which must thus have arisen from "an alteration on the side of other commodities." That the rapid march of invention and enormous extension of business is a sufficient cause for this "alteration" can be readily understood. Under this régime of falling prices, however, no one has suffered absolute hardship because "such alterations in prices, unlike those which spring from variations in the quantity of money, are always limited to the commodity in which the improvement takes place."† That is to say, if the price of the product of any particular industry has fallen even more rapidly than the average rate of fall, there has been no hardship, because this

* Pages 115-117.

† Bailey, p. 28.

has been accompanied by increased productive power. The price of the commodity has fallen (barring violent changes in demand) precisely because increased powers of production have depressed the market with a greatly increased output.

There has been, therefore, under these circumstances, no absolute hardship as regards the producers in any industry considered as a whole, as a homogeneous body. In any large industry, however, the body of producers is not homogeneous, so that, if individuals and groups of individuals (as of different countries) are not to suffer, it is only on condition that the lowered prices, the result of increased output, are due to improvements which all share alike, and that the market is elastic enough to take off the whole of this output.

As a matter of fact, the improvements do not spread equally over the whole body of producers in a widely extended industry; and, moreover, for most commodities the elasticity of demand is confined within rather narrow limits. Those producers who for any reason lag behind in a progressive age, and have lower prices thrust upon them by the improvements of others, suffer hardship, and may even be driven from that industry altogether. The improvement which in the last twenty years has occasioned such a heavy fall in the world's prices of agricultural products has been chiefly the opening up of new lands, first in America and later in Russia and Argentina. This, in the nature of things, was something which could not be repeated on the old lands. The margin of cultivation in the older parts of America as well as in Europe has been receding, and the surplus cultivators have been forced into other occupations. But these are questions of the particular inequalities of industrial conditions, and the necessary readjustment of industries relatively to each other in a progressive world. They are wholly different from the general question as to how the quantity of money affects as a common cause the prices of all products in all industries. While "general prices," or the "average" of the scale of prices at any time, is made up of particulars, the position of the particulars relatively to each other in the scale is quite outside the monetary problem. The question of justice in the matter of prices is not one of correcting the "unearned increment" of some

producers or the earned or unearned losses of others. It is a question of securing a just expression in terms of money of the value of the product of the average producer in the average situation.

To continue, let us now turn to Bailey's treatment of the ethics of the two sorts of appreciation,—the adjustment in accordance with "rigid justice" of the effects of each sort. So far as the means of adjustment are concerned, Bailey nowhere considers that a manipulation of the money supply might be resorted to in order to keep its value constant, *i.e.*, to maintain a certain level of general prices. He considers only the possibility of some sort of court or commission which should so modify pecuniary contracts as to secure equitable satisfaction in each instance. This latter method, while far more difficult of application than the former, would have the merit of being much more exact. By manipulation of the money supply the prices of all products would be affected alike, both those which had fallen the average amount and those which had fallen more or less; while those which had risen would be raised still further. As to the question of "rigid justice," he reasons as follows:—

It appears in case No. 1 that an adherence to the principle of quantity, though it would be literally according to agreement, would be virtually unjust, and that, if value were the criterion applied, neither party would be at all injured. As A. could gain only by the loss of B., and that in a manner not contemplated by the parties themselves, it would seem quite fair, were it practicable, that at the end of the term during which the loan continues they should be placed in the same virtual position as they were in at the beginning. . . .

In the case numbered 3, where the facility of production is supposed to be doubled, both parties are gainers. One does not profit at the expense of the other; and consequently there can be no pretext for interfering with the literal construction of the contract, as a contract for quantity without reference to value. There is not even the ostensible ground that the alteration in prices has originated on the side of the metal in which the bargain has been made.

It is true that A., at the expiration of the loan, obtains a quantity of money, which, although the same in weight, commands double the quantity of commodities. But this is an advantage common to the whole community. It is shared by the borrower B. If B., nevertheless, were to repay only half the sum originally borrowed, under the notion

that £50 would give to A. the same command of commodities that £100 did when the loan was originally advanced, A. would be the only person not benefited by the progress of society. B. would be twice benefited,—once in the way already described, and once by repaying only half the quantity of money borrowed. There is no reason why A., the lender, should not partake in the advantages derived by the community at large from improvements in production, in which his capital is, in truth, one of the instruments. It is a participation in a newly created fund, and not a mere transference of property belonging to others.*

To these latter propositions the present writer cannot agree. The lender in the case supposed does profit at the expense of the borrower. Not to the latter's absolute loss to be sure, but, nevertheless, to his detriment. The borrowers, as a class, have made the improvements in production; and they, as a class, should reap the whole advantage of them. The "newly created fund" of wealth is theirs; and, no matter how rich they are getting, if any other class has any "participation" in it, without their wish or consent, they may well feel aggrieved.

But, while there may be injustice of this sort arising from an appreciation of money from causes acting "on the side of other commodities," it is not of sufficient urgency to warrant the running of great risks to find a remedy; and any sort of remedy to be applied by a democratic government is full of risks. Yet something is gained in the discussion of this and other social questions by the frank acknowledgment of the existence of difficulties, even though no feasible remedy may be in sight.

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* Pages 119-121.

At its last meeting, held in December, 1897, the Council of the American Economic Association appointed a Committee on the Scope and Method of the Twelfth Census, which is expected to make a report at the meeting of the Association to be held toward the close of the current year. The committee consists of Professor Richmond Mayo-Smith, chairman, and Messrs. W. F. Willcox, C. D. Wright, R. P. Falkner, and D. R. Dewey; and it is now engaged in inquiries on the scope and method of the Eleventh Census, the impressions of those who have used it as to the accuracy and helpfulness of the published results, and the lessons taught by the experience of this country and of others as to the plan on which the census should be conducted. The committee invites the co-operation of all competent persons, and suggestions and criticisms addressed to the chairman or to any member will be welcome.

A similar committee was appointed by the Association on Currency Reform, of which Professor F. M. Taylor is chairman, the other members being Messrs. J. W. Jenks, D. Kinley, S. Sherwood, and F. W. Taussig.

DURING the quarter, two important books, already announced for publication in previous bibliographical lists, have claimed the attention of students of social questions,—Mr. and Mrs. Sidney Webb's *Industrial Democracy* and M. Levasseur's *L'Ouvrier Américain*. We note also several important additions to the helpful literature on monetary subjects, in Mr. A. D. Noyes's *Thirty Years of American Finance*, Mr. H. B. Russell's *International Monetary Conferences*, and Major L. Darwin's *Bimetallism*.

THE firm of Guillaumin in Paris announces a *Dictionnaire du Commerce, de l'Industrie, et de la Banque*, under the editorships of Messrs. Yves Guyot and A. Raffalovich, with a long list of able collaborators. It is addressed to men of

affairs as well as to the general public and to students of economics, and exact and detailed treatment of the facts of industry is promised. Two volumes will be issued, in parts, beginning in March of the present year. The price for the whole is 50 francs.

THE act for the purchase of the main lines of railway in Switzerland by the state, to which reference was made in the last issue of this Journal, was submitted to referendum on February 20, and was approved by a heavy majority, 884,146 votes against 117,130. It may be regarded as settled, therefore, that public ownership and management of railways will take the place of private in this democratic community.

THE correspondence recently published between the British government and the American Commission on International Bimetallism states the precise proposals which were submitted by that commission, and the course of the negotiations with regard to them. The commission, it will be recalled, consisted of Senator Wolcott and Messrs. Paine and Stevenson, and was sent abroad in the spring of 1897. Senator Wolcott gave a summary account of the negotiations in a speech delivered in the Senate on January 17, and the correspondence has been printed as an appendix to this address as well as in the British Parliamentary papers.

It appears that the commission first secured some adhesion from the French government; the extent of this adhesion being, as stated by the French ambassador at a conference held in London July 15: (1) that France desired the reopening of the mints of all commercial countries to the free coinage of silver at $15\frac{1}{2}$ to 1; (2) that the reopening of the Indian mints alone would not be regarded by France as ground for reopening the French mint to free coinage; (3) that the annual purchase of silver by England of, say, £10,000,000 "nominal value," though "only a palliative," would not be "excluded from view" as a contribution by England towards maintaining the value of silver.

The American commissioners laid before the British government (July 12) the following proposals :—

1. The opening of the Indian mints and the repeal of the order* making the sovereign legal tender in India.
2. The placing of one-fifth of the bullion in the issue department of the Bank of England in silver.
3. (a) The raising of the legal tender limit of silver to, say, £10.
(b) The issue of 20-shilling notes based on silver which shall be legal tender.
(c) The retirement, gradual or otherwise, of the 10-shilling gold pieces, and substitution of paper based on silver.
4. An agreement to coin annually £— of silver. [Present silver coinage average for five years about £1,000,000, less annual withdrawal of worn and defaced coin for recoining, about £350,000.]
Alternative proposal.—4. Agreement to purchase each year £— in silver at coinage value.
5. The opening of English mints to the coinage of rupees and of a British dollar, which shall be full tender in Straits Settlements and other silver-standard colonies, and tender in United Kingdom to the limit of silver legal tender.
6. Action by the colonies and coinage of silver in Egypt.
7. Something having the general scope of the Huskisson plan.†

Clearly, the question to be disposed of before any further steps could be considered was as to the opening of the Indian mints to silver. That question was referred by the British government to the government of India, whose negative answer, dated September 16, 1897, brought the negotiations to an abrupt close. The answer was framed on the supposition that the United States and France would coin freely at 15½ to 1. It stated in substance that the proposed action by France, the United States, and India "certainly could not . . . succeed in establishing stability in the relative value of gold and silver" ;

* This is perhaps to be construed as an expression of desire that no such order should be issued, since this precise step seems not to have been taken.

† The "Huskisson plan" here referred to is contained in a paper prepared by Huskisson in 1836, and apparently first printed in 1868 in the *Wellington Despatches*, 2d Series, vol. iii. p. 98 (the document was sent by Canning to Wellington). It is reprinted in Mr. H. H. Gibbs's *Colloquy on Currency* (1894), Appendix, p. xlvi. Huskisson proposed the receipt by the English mint, on deposit, of silver in quantities of not less than 200 ounces; the issue of certificates (none less than £50), which should state the equivalent value of the silver in "our money," i.e., gold, at the ratio of 15½ to 1; "these receipts to circulate as money in all transactions."

that, in any case, such a three-sided agreement was in great risk of termination; that the proposed change, so far as it attained the object, would depress Indian industries for some time, if not permanently; and that the experiment of closing the mints begun in 1898 had better chances of success than a partial international agreement. It was intimated also that the rate of exchange between gold and silver desirable for the interests of India was about 22 to 1, *i.e.*, the rupee at 16*d.* The British government, on communicating the decision from India, politely asked whether the American and French representatives desired to proceed; but, as Senator Wolcott stated in his speech reviewing the negotiations, "the refusal must be considered as final until the failure of the experiment upon which the India government has entered shall be demonstrated."

SOME recent decisions of the Supreme Court of the United States have defined, in terms new in some respects, the constitutional powers of a State as regards the taxation of corporations organized under the laws of another State; while the conditions under which the cases arose, and the mode in which the taxes were applied, illustrate once more the anomalies of the traditional American tax methods.

An Ohio statute of 1893, known as the "Nichols law,"* had provided that telegraph, telephone, and express companies should be taxed on "the true value in money of the entire property within the State of Ohio . . . in the proportion which the same bears to the entire property of the said companies." The proportion of the "entire property" within the State and taxable by it was to be ascertained by a State board appointed for the purpose. From the taxable sum made out by this board the assessed value of real property taxed within the State was to be deducted. The remainder was then to be apportioned among the several counties. As to express companies, whose treatment, as typical of the whole, may be followed in detail, each county was to be assigned the proportion which the gross receipts from business in its

*90 *Ohio Laws*, 330 (April 27, 1893).

limits bore to the total gross receipts in the State. On this sum taxes were to be levied by the county authorities at the local rate on property in general. In the case of the Adams Express Company the State board took as measure of the "true value of the entire property" the market value of its total capital stock, while the proportion in the State of Ohio was measured by the mileage of the company's lines within the State as compared with the total mileage in the country at large. By this process the company was assessed for taxes on the round sum of \$533,000.

A similar statute was passed at the same time in Indiana.* It differed from that of Ohio in applying tax machinery of this kind to sleeping-car and dining-car companies, as well as to telegraph, telephone, and express companies, and in providing specifically that the market value of stock plus bonds was to be the measure of each corporation's total property, while the mileage of lines within Indiana was to gauge the proportion of property taxable within the State.

The Ohio courts declared this method of taxation to be not repugnant to the constitution of the State.† The question was then carried before the Supreme Court of the United States as to its validity under the federal Constitution. It was contended that it was in violation of the clause giving Congress the power to regulate commerce, and also of that inhibiting deprivation of property without due process of law. A divided court (5 to 4) held that the Ohio statute and the similar statute in Indiana were not unconstitutional.‡ The decision, if not in reversal of others of earlier date, was at least of different trend. The power of Congress to regulate commerce, and the consequent limitations of the powers of the States, had been the basis of decisions which tended greatly to restrict the application of taxes to other property than that existing in tangible form within a State's borders. Under the construction now given to the federal Constitution a wide field is opened for the taxation of corporations carrying on operations within the several States but not incorporated under

* *Indiana Laws*, 1893, p. 374.

† *State v. Jones*, 51 Ohio State, 492.

‡ *Adams Express Company v. Ohio*, 165 U. S. 194, 166 U. S. 186, February and March, 1897.

their laws; the mode in which this shall be done being left to the discretion of the States, and subject to their views of expediency and equity.

If every State were to adopt the Ohio method, and were to content itself with that, the result would not be inconsistent with the traditional American tax system. Not only this. If combined with its logical corollary, the exemption from taxation of the securities issued by the taxed corporations, it would have important administrative advantages. To tax interstate corporations in every State on their property or income-yielding operations within the State, in some reasonably ascertained proportion to their total property or total operations, is, if not an easy task, certainly no such hopeless one as that of taxing the shares held by individual stockholders. But it is an obvious corollary that, where the corporation is so taxed at the source, the stockholders should not be taxed once more on their individual holdings. If every State were to tax interstate corporations as Ohio and Indiana do by the legislation described, and were also to tax securities of the corporations held by individuals, the result would be flagrant double taxation.

As it happens, the State of Ohio, under the letter of its laws, taxes doubly in precisely this manner,—nay, does more, and may be fairly said to tax triply and quadruply. Shares of the Adams Express Company are taxable to the holder in Ohio to their full market value; and, if they fail to be taxed in fact, the result is due not to any virtue in the law or its administrators, but to those evasions and equivocations which have brought the entire American system of taxing personal property into such disrepute. Further, in Ohio, horses, wagons, and like tangible personal property of express companies (to follow this particular case to the end) are taxable by the local bodies, notwithstanding the taxation of the corporation itself for the "entire property" in Ohio. Fourthly and lastly, express companies are taxed in Ohio on their gross receipts in the State at the rate of 2 per cent. This excise had been imposed in 1894,* on the recommenda-

* 91 *Ohio Laws*, 237 (May 14, 1894). The revenue from the tax on gross receipts is covered into the State treasury.

tion of the able Ohio Tax Commission of 1893, being designed as a substitute for the Nichols act of 1893, whose constitutionality was then thought more than doubtful. As it happens, this statute has been upheld and is still in force; and the substitute also remains. The result is an accumulation of exactions which, if imposed and enforced wherever such a company carried on its operations, might easily be ruinous, and certainly could be defended on no grounds of principle.

In the decision of the federal Supreme Court on the Ohio statute, it was pointed out that the security for rational taxation must lie in the sense of equity among the people and legislators of the several States, and that constitutional restrictions should not be stretched in this case or in others to cover objects possibly desirable in themselves, but not properly within their scope. The soundness of this principle is incontestable; and, if the liberty which it leaves for the several States sometimes results in anomalies such as have just been pointed out, the remedy must be sought in the good sense and good faith of the people and their representatives. The initial step in the course of legislation in Ohio, that of taxing the corporation itself on its "property," is in many ways commendable. It remains to be seen whether the State will content itself with accomplishing this once for all, or will continue to exact double and treble taxes from the same source.

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APPENDIX.

A BILL FOR THE ESTABLISHMENT OF A SWISS FEDERAL BANK OF ISSUE (18 JUNE, 1896).

I. GENERAL PROVISIONS.

ARTICLE 1. Under the name "Schweizerische Bundesbank, Banque de la Confédération Suisse, Banca della Confederazione Svizzera," the Confederation establishes a State Bank under separate administration, endowed with the rights of a legal person. The Bank shall have the exclusive right to the issue of bank-notes. The main object of the Bank shall be to regulate the circulation of money in the country and to facilitate payments. It shall further undertake without compensation the care of the finances of the Confederation, so far as they may be intrusted to it.

ART. 2. The Confederation guarantees all obligations of the Bank so far as the assets of the Bank may not suffice to meet them.

ART. 3. The main seat of the Bank shall be in Bern. With the consent of the governments of the several Cantons, to which no conditions may be attached, it shall have the right to establish branches and agencies at any place in Switzerland. It is authorized to acquire by purchase existing banks of appropriate scope, and may continue them as branch banks, after liquidation of such operations as may not be appropriate. Each Canton is entitled to the establishment of a branch or agency of the Bank in its territory. In the establishment of agencies regard shall be had in the first instance to the already existing Cantonal banks and banks in whose administration the Cantons have a share.

ART. 4. The capital of the Bank shall be 25,000,000 francs, divided into shares of 10,000 francs each. It shall be paid in on the day when operations begin. It may be increased by vote of the Federal Assembly to 50,000,000 francs.

Two-fifths of the capital may be subscribed to by the Cantons; three-fifths, and as much more as the Cantons may not take up, shall be provided by the Confederation. The Confederation shall secure the funds for its subscription by the issue of debentures not redeemable by the creditors.

The apportionment among the Cantons shall be so made that each Canton shall be entitled to at least ten shares each, half-cantons to at least five shares. The remainder shall then be apportioned on the basis of population. The Cantons shall not be required to take shares, and, if they do so, shall assume no liability beyond the amount subscribed for. The shares shall be issued in the name of the Confederation and of the Cantons. They may be transferred to administrative organs or to public funds of the Confederation, and, with the consent of the Federal Council, to those of the Cantons. They may not be transferred to private persons.

ART. 5. The Bank and its branches may not be taxed in the Cantons.

It is reserved to the legislation of several of the Cantons to impose stamp taxes on bills [*Wechsel*], checks, and other obligations. Only documents [*Akte*] issued by the Federal Bank, including receipts given by it, are exempt from such taxes.

II. OPERATIONS OF THE FEDERAL BANK.

ART. 6. The Federal Bank shall be limited to the business of a pure bank of issue, deposit, and discount. As such, it shall be entitled to undertake the following operations, and these only:—

1. The discount of bills on Switzerland having not more than three months to run, and having the signatures of at least two persons of known solvency.

2. The sale and purchase of foreign bills, having not more than three months to run, and having the signatures of at least two persons of known solvency.

3. Loans at interest on the pledge of securities for a period of not more than three months. Shares shall not be accepted in pledge.

4. The purchase of interest-bearing evidences of debt issued by the Confederation, the Cantons, or foreign States, payable to bearer and of easy realization, but only for the purpose of temporary investment.

5. The acceptance of deposits with or without payment of interest.

6. The purchase and sale of the precious metals for account of the Bank or for others, and loans secured by their deposit.

7. The issue of gold and silver certificates in accordance with regulations to be issued for the purpose.

8. Check, draft, and collection [*Inkasso*] operations.

9. The acceptance for safe keeping and management of securities and valuables.

ART. 7. The Federal Bank shall be obliged: (1), wherever it has

agents, to receive payment without charge on behalf of the Confederation and of its administrative organs, and similarly to make payments up to the amount standing to the credit of the Confederation; (2) to accept for safe keeping or management, without charge, securities belonging to the Confederation and under its administration.

III. ISSUE AND REDEMPTION OF BANK-NOTES, AND SECURITY FOR THEM.

ART. 8. The Federal Bank shall have the right to issue notes according to the needs of trade, within a maximum limit to be fixed by the Federal Legislature. The manufacture, retirement, and destruction of the notes, shall take place under the supervision of the Federal Department of Finance.

ART. 9. The notes shall be issued in denominations of 50, 100, 500, and 1,000 francs. In extraordinary cases the federal legislature may authorize temporarily the issue of notes in smaller denominations.

ART. 10. The total amount of notes outstanding shall be covered by cash or by gold bullion reckoned at its market value or by foreign gold coins or by bills on Switzerland or on foreign countries. The reserve in specie shall be at least one-third of the notes in circulation.

ART. 11. The Bank shall further be pledged at all times to cover all debts due on short time by bills on Switzerland or on foreign countries or by cash or gold bullion. Debts due within ten days shall be reckoned for the purposes of this article as due on short time.

ART. 12. The Federal Bank shall redeem its notes at par in legal tender money (a) at its main office in Bern in any amount on demand, (b) at its branch offices and agencies so far as their cash on hand and cash requirements may permit, but in any case within such period as may be necessary to procure the needed cash from the main office.

At the branch offices and agencies the redemption services shall be organized with due regard to the needs of the respective localities.

ART. 13. The Federal Bank shall at all times receive its notes both at the main office and at branches at par in payment of debts and for the establishment of credits [*Guthaben*]. The treasury offices of the Confederation shall also receive the notes of the Bank at par in all payments. No further obligation for the acceptance of the notes shall be established except under necessity in times of war.

ART. 14. Damaged notes shall be accepted by the Federal Bank at par, provided the bearer produces more than one-half of the note,

or, in case of presentation of less than half, proves the destruction of the remaining part. The Bank shall not be obliged to make compensation for notes lost or destroyed.

ART. 15. Worn and damaged notes may not be reissued by the Bank or by its agencies.

ART. 16. All controversies at law arising in connection with the issue of notes shall be subject to the jurisdiction of the federal courts.

IV. ACCOUNTS, PROFITS, SURPLUS, PUBLICITY.

ART. 17. The accounts of the Bank shall be approved by the Federal Assembly. They shall close with each calendar year. The balance sheet shall be made up on the principles of Article 656 of the Code of Contracts.

ART. 18. Of the net profits shown by the statement of profit and loss, 25 per cent. shall first be carried to surplus. Out of the excess, interest at the rate of 3 1-2 per cent. shall be paid on capital. If the excess does not suffice to yield 3 1-2 per cent., the deficit shall be made up from the surplus fund. The remainder of the net profits shall be divided among the Cantons. The distribution among the Cantons shall be in proportion to population, as given in the last preceding federal census.

ART. 19. The surplus fund shall be invested in domestic or foreign public securities. In the annual accounts, interest on the surplus fund shall be no charge against the profits.

ART. 20. The surplus shall be the property of the Bank. It may be applied only to cover impairments of capital, and to complete the dividend on capital at 3 1-2 per cent., as provided in Article 18.

ART. 21. The Bank shall publish from time to time the rate at which it will make loans and discounts. It shall publish each week a statement of its assets and liabilities, and each year a general balance sheet.

V. ADMINISTRATIVE ORGANS.

ART. 22. The organs of the Federal Bank shall be: (a) for supervision and control, the Bank Council and the Local Committees; (b) for administration, the Directorate and the Local Directors.

ART. 23. Supervision and control shall be exercised by a Bank Council consisting of twenty-five members elected for a term of four years. Fifteen members shall be chosen by the Federal Council, and ten by the Cantons. In the selection of members due regard shall be had to the several commercial centres and districts of Switzerland. Vacancies shall be filled for the remainders of the terms.

ART. 24. The President and Vice-President of the Bank Council shall first be named by the Federal Council; thereupon the Cantons shall elect ten members; thereafter the Federal Council shall elect the remaining thirteen members.

ART. 25. [Regulates the mode of election of members of the Bank Council on the part of the Cantons.]

ART. 26. The more immediate supervision and control shall be exercised by a committee consisting of five members of the Bank Council, elected for the period of four years. This committee shall consist of the President, the Vice-President, and three other members to be appointed by the Bank Council.

ART. 27. The Bank Council shall hold meetings at least once a quarter. It can be convened for extra meetings at the call of the President or at the demand of seven members. [Further regulations follow as to the meetings of the Bank Council.]

ART. 28. Supervision of the branches shall be exercised by Local Committees. These shall consist of not less than five nor more than ten persons, to be chosen by the Bank Council for a period of four years, by preference from among reputable merchants and business men of the locality. Members of the Bank Council residing in the locality are eligible to membership. From among the members the Bank Council shall designate a Chairman and Vice-Chairman. The Local Committees shall meet as often as occasion shall require, and a majority of their members shall constitute a quorum.

ART. 29. The Directorate shall be the administrative and executive body, and shall carry out the objects of the Bank within the limits set by the laws and by-laws. It shall represent the Bank in foreign countries. It shall be the superior authority for all officials and employees of the central administration as well as of the Local Directors. The Directorate shall consist of not less than three nor more than five members, who shall reside permanently at the main office of the Bank. The members are appointed by the Federal Council for a period of six years, upon nomination made, subject to no restriction, by the Bank Council. The Federal Council shall elect from among the members of the Directorate the President and Vice-President.

ART. 30. The Local Directors shall be at least two in number, appointed for a period of four years upon nomination, subject to no restriction, by the Bank Council. They shall undertake the responsible administration of the branches in accord with the instructions issued by the Directorate and with the general by-laws. They are the immediate superiors of the officials and employees in their respective branches.

ART. 31. (a) A member of the Federal Assembly may not be a member of the Bank Council, of the Directorate, or of the Local Directors. (b) A member of the Bank Council may not be a member of the Directorate or one of the Local Directors.

ART. 32. Officials and employees at the main office of the Bank shall be appointed by the Directorate. Other officials and employees shall be elected by the Bank Council on nomination by the Local Directors and approval by the Directorate.

ART. 33-38. [Provisions as to the eligibility and legal status of the different officers. Obligatory secrecy as to business operations. Salaries of officers. *Tantièmes* prohibited.]

VI. SUPERVISION BY THE FEDERAL ASSEMBLY.

ART. 39. The Federal Assembly shall exercise general supervision over the Bank. For this purpose each House shall appoint Auditing Committees of not less than five nor more than seven members, to be appointed for a term of three years identical with the term of the legislature. The two committees shall unite for the auditing and approval of the annual balance sheet and report, and for the consideration of regulations to be made or approved by the legislature. For other purposes the committees shall act in accord with the general laws regulating the transaction of business on the part of the two Houses. The committees, or their representatives duly appointed for the purpose, shall have at all times unlimited access to all the books and operations of the Bank, subject to the requirements as to secrecy made in Article 34.

VII. PENALTIES.

ART. 40-47. [Penalties for counterfeiting or raising notes, manufacturing plates, illegal issue of notes.]

VIII. TRANSITIONAL PROVISIONS.

ART. 48-50. [Provisional elections for Bank Council and Directorate, and provisional action by them. The Bank to open when all the capital has been paid in, and the main office and four branches organized.]

ART. 51. After the date of the acceptance of this act the Federal Council shall be authorized to refuse permission for the reissue of notes by existing banks of issue or for an increase of their issues.

ART. 52. Within a period not exceeding two and a half years

after the opening of the Federal Bank for business, old notes shall be retired. Each bank of issue shall retire at the close of each quarter at least one-tenth of its outstanding notes, or shall deliver in cash such sums as may not have been so retired. If more than one-tenth of the issue is retired in any quarter, the excess may be carried over to later quarters. The notes retired and to be destroyed shall be delivered to the Federal Controlling office. Sums to be paid in cash shall be delivered to the Federal Bank.

ART. 58. With the last instalment each bank of issue shall hand to the Federal Bank a detailed statement of the notes still outstanding. The Federal Bank shall undertake the payment of such notes during a period of thirty years from the date mentioned, and shall destroy them after payment. At the close of this period the amount of any notes not presented for payment shall be credited to the Swiss Pension Fund. For any banks which shall deliver to the Federal Bank before the lapse of the two and a half years the amount of their outstanding notes, the Federal Bank shall undertake the immediate and unconditional payment of their notes.

ART. 54-56. [Further provisions as to the period of transition and as to the final taking effect of the act.]

THE
QUARTERLY JOURNAL
OF
ECONOMICS

JULY, 1898

WHY IS ECONOMICS NOT AN EVOLUTIONARY
SCIENCE?

M. G. DE LAPOUGE recently said, "Anthropology is destined to revolutionize the political and the social sciences as radically as bacteriology has revolutionized the science of medicine."* In so far as he speaks of economics, the eminent anthropologist is not alone in his conviction that the science stands in need of rehabilitation. His words convey a rebuke and an admonition, and in both respects he speaks the sense of many scientists in his own and related lines of inquiry. It may be taken as the consensus of those men who are doing the serious work of modern anthropology, ethnology, and psychology, as well as of those in the biological sciences proper, that economics is helplessly behind the times, and unable to handle its subject-matter in a way to entitle it to standing as a modern science. The other political and social sci-

* "The Fundamental Laws of Anthropo-sociology," *Journal of Political Economy*, December, 1897, p. 54. The same paper, in substance, appears in the *Rivista Italiana di Sociologia* for November, 1897.

ences come in for their share of this obloquy, and perhaps on equally cogent grounds. Nor are the economists themselves buoyantly indifferent to the rebuke. Probably no economist to-day has either the hardihood or the inclination to say that the science has now reached a definitive formulation, either in the detail of results or as regards the fundamental features of theory. The nearest recent approach to such a position on the part of an economist of accredited standing is perhaps to be found in Professor Marshall's Cambridge address of a year and a half ago.* But these utterances are so far from the jaunty confidence shown by the classical economists of half a century ago that what most forcibly strikes the reader of Professor Marshall's address is the exceeding modesty and the uncalled-for humility of the spokesman for the "old generation." With the economists who are most attentively looked to for guidance, uncertainty as to the definitive value of what has been and is being done, and as to what we may, with effect, take to next, is so common as to suggest that indecision is a meritorious work. Even the Historical School, who made their innovation with so much of home-grown applause some time back, have been unable to settle down contentedly to the pace which they set themselves.

The men of the sciences that are proud to own themselves "modern" find fault with the economists for being still content to occupy themselves with repairing a structure and doctrines and maxims resting on natural rights, utilitarianism, and administrative expediency. This aspersion is not altogether merited, but is near enough to the mark to carry a sting. These modern sciences are evolutionary sciences, and their adepts contemplate that characteristic of their work with some complacency. Economics is not an evolutionary science — by the confession of its

* "The Old Generation of Economists and the New," in this Journal for January, 1897, p. 133.

spokesman; and the economists turn their eyes with something of envy and some sense of baffled emulation to these rivals that make broad their phylacteries with the legend, "Up to date."

Precisely wherein the social and political sciences, including economics, fall short of being evolutionary sciences, is not so plain. At least, it has not been satisfactorily pointed out by their critics. Their successful rivals in this matter—the sciences that deal with human nature among the rest—claim as their substantial distinction that they are realistic: they deal with facts. But economics, too, is realistic in this sense: it deals with facts, often in the most painstaking way, and latterly with an increasingly strenuous insistence on the sole efficacy of data. But this "realism" does not make economics an evolutionary science. The insistence on data could scarcely be carried to a higher pitch than it was carried by the first generation of the Historical School; and yet no economics is farther from being an evolutionary science than the received economics of the Historical School. The whole broad range of erudition and research that engaged the energies of that school commonly falls short of being science, in that, when consistent, they have contented themselves with an enumeration of data and a narrative account of industrial development, and have not presumed to offer a theory of anything or to elaborate their results into a consistent body of knowledge.

Any evolutionary science, on the other hand, is a close-knit body of theory. It is a theory of a process, of an unfolding sequence. But here, again, economics seems to meet the test in a fair measure, without satisfying its critics that its credentials are good. It must be admitted, e.g., that J. S. Mill's doctrines of production, distribution, and exchange, are a theory of certain economic processes, and that he deals in a consistent and effective fashion with the sequences of fact that make up his subject-matter. So,

also, Cairnes's discussion of normal value, of the rate of wages, and of international trade, are excellent instances of a theoretical handling of economic processes of sequence and the orderly unfolding development of fact. But an attempt to cite Mill and Cairnes as exponents of an evolutionary economics will produce no better effect than perplexity, and not a great deal of that. Very much of monetary theory might be cited to the same purpose and with the like effect. Something similar is true even of late writers who have avowed some penchant for the evolutionary point of view; as, *e.g.*, Professor Hadley,—to cite a work of unquestioned merit and unusual reach. Measurably, he keeps the word of promise to the ear; but any one who may cite his *Economics* as having brought political economy into line as an evolutionary science will convince neither himself nor his interlocutor. Something to the like effect may fairly be said of the published work of that later English strain of economists represented by Professors Cunningham and Ashley, and Mr. Cannan, to name but a few of the more eminent figures in the group.

Of the achievements of the classical economists, recent and living, the science may justly be proud; but they fall short of the evolutionist's standard of adequacy, not in failing to offer a theory of a process or of a developmental relation, but through conceiving their theory in terms alien to the evolutionist's habits of thought. The difference between the evolutionary and the pre-evolutionary sciences lies not in the insistence on facts. There was a great and fruitful activity in the natural sciences in collecting and collating facts before these sciences took on the character which marks them as evolutionary. Nor does the difference lie in the absence of efforts to formulate and explain schemes of process, sequence, growth, and development in the pre-evolutionary days. Efforts of this kind abounded, in number and diversity; and many schemes of development, of great subtlety and beauty,

gained a vogue both as theories of organic and inorganic development and as schemes of the life history of nations and societies. It will not even hold true that our elders overlooked the presence of cause and effect in formulating their theories and reducing their data to a body of knowledge. But the terms which were accepted as the definitive terms of knowledge were in some degree different in the early days from what they are now. The terms of thought in which the investigators of some two or three generations back definitively formulated their knowledge of facts, in their last analyses, were different in kind from the terms in which the modern evolutionist is content to formulate his results. The analysis does not run back to the same ground, or appeal to the same standard of finality or adequacy, in the one case as in the other.

The difference is a difference of spiritual attitude or point of view in the two contrasted generations of scientists. To put the matter in other words, it is a difference in the basis of valuation of the facts for the scientific purpose, or in the interest from which the facts are appreciated. With the earlier as with the later generation the basis of valuation of the facts handled is, in matters of detail, the causal relation which is apprehended to subsist between them. This is true to the greatest extent for the natural sciences. But in their handling of the more comprehensive schemes of sequence and relation—in their definitive formulation of the results—the two generations differ. The modern scientist is unwilling to depart from the test of causal relation or quantitative sequence. When he asks the question, Why? he insists on an answer in terms of cause and effect. He wants to reduce his solution of all problems to terms of the conservation of energy or the persistence of quantity. This is his last recourse. And this last recourse has in our time been made available for the handling of schemes of development and theories of a comprehensive process by the

notion of a cumulative causation. The great deserts of the evolutionist leaders—if they have great deserts as leaders—lie, on the one hand, in their refusal to go back of the colorless sequence of phenomena and seek higher ground for their ultimate syntheses, and, on the other hand, in their having shown how this colorless impersonal sequence of cause and effect can be made use of for theory proper, by virtue of its cumulative character.

For the earlier natural scientists, as for the classical economists, this ground of cause and effect is not definitive. Their sense of truth and substantiality is not satisfied with a formulation of mechanical sequence. The ultimate term in their systematization of knowledge is a "natural law." This natural law is felt to exercise some sort of a coercive surveillance over the sequence of events, and to give a spiritual stability and consistence to the causal relation at any given juncture. To meet the high classical requirement, a sequence—and a developmental process especially—must be apprehended in terms of a consistent propensity tending to some spiritually legitimate end. When facts and events have been reduced to these terms of fundamental truth and have been made to square with the requirements of definitive normality, the investigator rests content. Any causal sequence which is apprehended to traverse the imputed propensity in events is a "disturbing factor." Logical congruity with the apprehended propensity is, in this view, adequate ground of procedure in building up a scheme of knowledge or of development. The objective point of the efforts of the scientists working under the guidance of this classical tradition, is to formulate knowledge in terms of absolute truth; and this absolute truth is a spiritual fact. It means a coincidence of facts with the deliverances of an enlightened and deliberate common sense.

The development and the attenuation of this preconception of normality or of a propensity in events might be

traced in detail from primitive animism down through the elaborate discipline of faith and metaphysics, overruling Providence, order of nature, natural rights, natural law, underlying principles. But all that may be necessary here is to point out that, by descent and by psychological content, this constraining normality is of a spiritual kind. It is for the scientific purpose an imputation of spiritual coherence to the facts dealt with. The question of interest is how this preconception of normality has fared at the hands of modern science, and how it has come to be superseded in the intellectual primacy by the latter-day preconception of a non-spiritual sequence. This question is of interest because its answer may throw light on the question as to what chance there is for the indefinite persistence of this archaic habit of thought in the methods of economic science.

Under primitive conditions, men stand in immediate personal contact with the material facts of the environment; and the force and discretion of the individual in shaping the facts of the environment count obviously, and to all appearance solely, in working out the conditions of life. There is little of impersonal or mechanical sequence visible to primitive men in their every-day life; and what there is of this kind in the processes of brute nature about them is in large part inexplicable and passes for inscrutable. It is accepted as malignant or beneficent, and is construed in the terms of personality that are familiar to all men at first hand,—the terms known to all men by first-hand knowledge of their own acts. The inscrutable movements of the seasons and of the natural forces are apprehended as actions guided by discretion, will power, or propensity looking to an end, much as human actions are. The processes of inanimate nature are agencies whose habits of life are to be learned, and who are to be coerced, outwitted, circumvented, and turned to account,

much as the beasts are. At the same time the community is small, and the human contact of the individual is not wide. Neither the industrial life nor the non-industrial social life forces upon men's attention the ruthless impersonal sweep of events that no man can withstand or deflect, such as becomes visible in the more complex and comprehensive life process of the larger community of a later day. There is nothing decisive to hinder men's knowledge of facts and events being formulated in terms of personality — in terms of habit and propensity and will power.

As time goes on and as the situation departs from this archaic character,— where it does depart from it,— the circumstances which condition men's systematization of facts change in such a way as to throw the impersonal character of the sequence of events more and more into the foreground. The penalties for failure to apprehend facts in dispassionate terms fall surer and swifter. The sweep of events is forced home more consistently on men's minds. The guiding hand of a spiritual agency or a propensity in events becomes less readily traceable as men's knowledge of things grows ampler and more searching. In modern times, and particularly in the industrial countries, this coercive guidance of men's habits of thought in the realistic direction has been especially pronounced; and the effect shows itself in a somewhat reluctant but cumulative departure from the archaic point of view. The departure is most visible and has gone farthest in those homely branches of knowledge that have to do immediately with modern mechanical processes, such as engineering designs and technological contrivances generally. Of the sciences, those have wandered farthest on this way (of integration or disintegration, according as one may choose to view it) that have to do with mechanical sequence and process; and those have best and longest retained the archaic point of view intact which — like the

moral, social, or spiritual sciences — have to do with process and sequence that is less tangible, less traceable by the use of the senses, and that therefore less immediately forces upon the attention the phenomenon of sequence as contrasted with that of propensity.

There is no abrupt transition from the pre-evolutionary to the post-evolutionary standpoint. Even in those natural sciences which deal with the processes of life and the evolutionary sequence of events the concept of dispassionate cumulative causation has often and effectively been helped out by the notion that there is in all this some sort of a meliorative trend that exercises a constraining guidance over the course of causes and effects. The faith in this meliorative trend as a concept useful to the science has gradually weakened, and it has repeatedly been disavowed; but it can scarcely be said to have yet disappeared from the field.

The process of change in the point of view, or in the terms of definitive formulation of knowledge, is a gradual one; and all the sciences have shared, though in an unequal degree, in the change that is going forward. Economics is not an exception to the rule, but it still shows too many reminiscences of the "natural" and the "normal," of "verities" and "tendencies," of "controlling principles" and "disturbing causes," to be classed as an evolutionary science. The history of the science shows a long and devious course of disintegrating animism,—from the days of the scholastic writers, who discussed usury from the point of view of its relation to the divine suzerainty, to the Physiocrats, who rested their case on an "*ordre naturel*" and a "*loi naturelle*" that decides what is substantially true and, in a general way, guides the course of events by the constraint of logical congruence. There has been something of a change from Adam Smith, whose recourse in perplexity was to the guidance of "an unseen hand," to Mill and Cairnes, who formulated the

laws of "natural" wages and "normal" value, and the former of whom was so well content with his work as to say, "Happily, there is nothing in the laws of Value which remains for the present or any future writer to clear up: the theory of the subject is complete."* But the difference between the earlier and the later point of view is a difference of degree rather than of kind.

The standpoint of the classical economists, in their higher or definitive syntheses and generalizations, may not inaptly be called the standpoint of ceremonial adequacy. The ultimate laws and principles which they formulated were laws of the normal or the natural, according to a pre-conception regarding the ends to which, in the nature of things, all things tend. In effect, this preconception imputes to things a tendency to work out what the instructed common sense of the time accepts as the adequate or worthy end of human effort. It is a projection of the accepted ideal of conduct. This ideal of conduct is made to serve as a canon of truth, to the extent that the investigator contents himself with an appeal to its legitimation for premises that run back of the facts with which he is immediately dealing, for the "controlling principles" that are conceived intangibly to underlie the process discussed, and for the "tendencies" that run beyond the situation as it lies before him. As instances of the use of this ceremonial canon of knowledge may be cited the "conjectural history" that plays so large a part in the classical treatment of economic institutions, such as the normalized accounts of the beginnings of barter in the transactions of the putative hunter, fisherman, and boat-builder, or the man with the plane and the two planks, or the two men with the basket of apples and the basket of nuts.† Of a similar import is the characterization of money as "the great wheel of circulation"‡ or as "the medium of ex-

* *Political Economy*, Book III. chap. i.

† Marshall, *Principles of Economics* (2d ed.), Book V. chap. ii. p. 395, note.

‡ Adam Smith, *Wealth of Nations* (Bohn ed.), Book II. chap. ii. p. 289.

change." Money is here discussed in terms of the end which, "in the normal case," it should work out according to the given writer's ideal of economic life, rather than in terms of causal relation.

With later writers especially, this terminology is no doubt to be commonly taken as a convenient use of metaphor, in which the concept of normality and propensity to an end has reached an extreme attenuation. But it is precisely in this use of figurative terms for the formulation of theory that the classical normality still lives its attenuated life in modern economics; and it is this facile recourse to inscrutable figures of speech as the ultimate terms of theory that has saved the economists from being dragooned into the ranks of modern science. The metaphors are effective, both in their homiletical use and as a labor-saving device,—more effective than their user designs them to be. By their use the theorist is enabled serenely to enjoin himself from following out an elusive train of causal sequence. He is also enabled, without misgivings, to construct a theory of such an institution as money or wages or land-ownership without descending to a consideration of the living items concerned, except for convenient corroboration of his normalized scheme of symptoms. By this method the theory of an institution or a phase of life may be stated in conventionalized terms of the apparatus whereby life is carried on, the apparatus being invested with a tendency to an equilibrium at the normal, and the theory being a formulation of the conditions under which this putative equilibrium supervenes. In this way we have come into the usufruct of a cost-of-production theory of value which is pungently reminiscent of the time when Nature abhorred a vacuum. The ways and means and the mechanical structure of industry are formulated in a conventionalized nomenclature, and the observed motions of this mechanical apparatus are then reduced to a normalized scheme of relations. The scheme so arrived at is spirit-

ually binding on the behavior of the phenomena contemplated. With this normalized scheme as a guide, the permutations of a given segment of the apparatus are worked out according to the values assigned the several items and features comprised in the calculation; and a ceremonially consistent formula is constructed to cover that much of the industrial field. This is the deductive method. The formula is then tested by comparison with observed permutations, by the polariscopic use of the "normal case"; and the results arrived at are thus authenticated by induction. Features of the process that do not lend themselves to interpretation in the terms of the formula are abnormal cases and are due to disturbing causes. In all this the agencies or forces causally at work in the economic life process are neatly avoided. The outcome of the method, at its best, is a body of logically consistent propositions concerning the normal relations of things—a system of economic taxonomy. At its worst, it is a body of maxims for the conduct of business and a polemical discussion of disputed points of policy.

In all this, economic science is living over again in its turn the experiences which the natural sciences passed through some time back. In the natural sciences the work of the taxonomist was and continues to be of great value, but the scientists grew restless under the régime of symmetry and system-making. They took to asking why, and so shifted their inquiries from the structure of the coral reefs to the structure and habits of life of the polyp that lives in and by them. In the science of plants, systematic botany has not ceased to be of service; but the stress of investigation and discussion among the botanists to-day falls on the biological value of any given feature of structure, function, or tissue rather than on its taxonomic bearing. All the talk about cytoplasm, centrosomes, and karyokinetic process, means that the inquiry now looks consistently to the life process, and aims to explain it in terms of cumulative causation.

What may be done in economic science of the taxonomic kind is shown at its best in Cairnes's work, where the method is well conceived and the results effectively formulated and applied. Cairnes handles the theory of the normal case in economic life with a master hand. In his discussion the metaphysics of propensity and tendencies no longer avowedly rules the formulation of theory, nor is the inscrutable meliorative trend of a harmony of interests confidently appealed to as an engine of definitive use in giving legitimacy to the economic situation at a given time. There is less of an exercise of faith in Cairnes's economic discussions than in those of the writers that went before him. The definitive terms of the formulation are still the terms of normality and natural law, but the metaphysics underlying this appeal to normality is so far removed from the ancient ground of the beneficent "order of nature" as to have become at least nominally impersonal and to proceed without a constant regard to the humanitarian bearing of the "tendencies" which it formulates. The metaphysics has been attenuated to something approaching in colorlessness the naturalist's conception of natural law. It is a natural law which, in the guise of "controlling principles," exercises a constraining surveillance over the trend of things; but it is no longer conceived to exercise its constraint in the interest of certain ulterior human purposes. The element of beneficence has been well-nigh eliminated, and the system is formulated in terms of the system itself. Economics as it left Cairnes's hand, so far as his theoretical work is concerned, comes near being taxonomy for taxonomy's sake.

No equally capable writer has come as near making economics the ideal "dismal" science as Cairnes in his discussion of pure theory. In the days of the early classical writers economics had a vital interest for the laymen of the time, because it formulated the common sense metaphysics of the time in its application to a department

of human life. But in the hands of the later classical writers the science lost much of its charm in this regard. It was no longer a definition and authentication of the deliverances of current common sense as to what ought to come to pass; and it, therefore, in large measure lost the support of the people out of doors, who were unable to take an interest in what did not concern them; and it was also out of touch with that realistic or evolutionary habit of mind which got under way about the middle of the century in the natural sciences. It was neither vitally metaphysical nor matter-of-fact, and it found comfort with very few outside of its own ranks. Only for those who by the fortunate accident of birth or education have been able to conserve the taxonomic animus has the science during the last third of a century continued to be of absorbing interest. The result has been that from the time when the taxonomic structure stood forth as a completed whole in its symmetry and stability the economists themselves, beginning with Cairnes, have been growing restive under its discipline of stability, and have made many efforts, more or less sustained, to galvanize it into movement. At the hands of the writers of the classical line these excursions have chiefly aimed at a more complete and comprehensive taxonomic scheme of permutations; while the historical departure threw away the taxonomic ideal without getting rid of the preconceptions on which it is based; and the later Austrian group struck out on a theory of process, but presently came to a full stop because the process about which they busied themselves was not, in their apprehension of it, a cumulative or unfolding sequence.

But what does all this signify? If we are getting restless under the taxonomy of a monocotyledonous wage doctrine and a cryptogamic theory of interest, with involute, loculicidal, tomentous, and moniliform variants,

what is the cytoplasm, centrosome, or karyokinetic process to which we may turn, and in which we may find surcease from the metaphysics of normality and controlling principles? What are we going to do about it? The question is rather, What are we doing about it? There is the economic life process still in great measure awaiting theoretical formulation. The active material in which the economic process goes on is the human material of the industrial community. For the purpose of economic science the process of cumulative change that is to be accounted for is the sequence of change in the methods of doing things,—the methods of dealing with the material means of life.

What has been done in the way of inquiry into this economic life process? The ways and means of turning material objects and circumstances to account lie before the investigator at any given point of time in the form of mechanical contrivances and arrangements for compassing certain mechanical ends. It has therefore been easy to accept these ways and means as items of inert matter having a given mechanical structure and thereby serving the material ends of man. As such, they have been scheduled and graded by the economists under the head of capital, this capital being conceived as a mass of material objects serviceable for human use. This is well enough for the purposes of taxonomy; but it is not an effective method of conceiving the matter for the purpose of a theory of the developmental process. For the latter purpose, when taken as items in a process of cumulative change or as items in the scheme of life, these productive goods are facts of human knowledge, skill, and predilection; that is to say, they are, substantially, prevalent habits of thought, and it is as such that they enter into the process of industrial development. The physical properties of the materials accessible to man are constants: it is the human agent that changes,—his insight

and his appreciation of what these things can be used for is what develops. The accumulation of goods already on hand conditions his handling and utilization of the materials offered, but even on this side—the “limitation of industry by capital”—the limitation imposed is on what men can do and on the methods of doing it. The changes that take place in the mechanical contrivances are an expression of changes in the human factor. Changes in the material facts breed further change only through the human factor. It is in the human material that the continuity of development is to be looked for; and it is here, therefore, that the motor forces of the process of economic development must be studied if they are to be studied in action at all. Economic action must be the subject-matter of the science if the science is to fall into line as an evolutionary science.

Nothing new has been said in all this. But the fact is all the more significant for being a familiar fact. It is a fact recognized by common consent throughout much of the later economic discussion, and this current recognition of the fact is a long step towards centering discussion and inquiry upon it. If economics is to follow the lead or the analogy of the other sciences that have to do with a life process, the way is plain so far as regards the general direction in which the move will be made.

The economists of the classical trend have made no serious attempt to depart from the standpoint of taxonomy and make their science a genetic account of the economic life process. As has just been said, much the same is true for the Historical School. The latter have attempted an account of developmental sequence, but they have followed the lines of pre-Darwinian speculations on development rather than lines which modern science would recognize as evolutionary. They have given a narrative survey of phenomena, not a genetic account of an unfolding process. In this work they have, no doubt, achieved

results of permanent value; but the results achieved are scarcely to be classed as economic theory. On the other hand, the Austrians and their precursors and their coadjutors in the value discussion have taken up a detached portion of economic theory, and have inquired with great nicety into the process by which the phenomena within their limited field are worked out. The entire discussion of marginal utility and subjective value as the outcome of a valuation process must be taken as a genetic study of this range of facts. But here, again, nothing further has come of the inquiry, so far as regards a rehabilitation of economic theory as a whole. Accepting Menger as their spokesman on this head, it must be said that the Austrians have on the whole showed themselves unable to break with the classical tradition that economics is a taxonomic science.

The reason for the Austrian failure seems to lie in a faulty conception of human nature,—faulty for the present purpose, however adequate it may be for any other. In all the received formulations of economic theory, whether at the hands of English economists or those of the Continent, the human material with which the inquiry is concerned is conceived in hedonistic terms; that is to say, in terms of a passive and substantially inert and immutably given human nature. The psychological and anthropological preconceptions of the economists have been those which were accepted by the psychological and social sciences some generations ago. The hedonistic conception of man is that of a lightning calculator of pleasures and pains, who oscillates like a homogeneous globule of desire of happiness under the impulse of stimuli that shift him about the area, but leave him intact. He has neither antecedent nor consequent. He is an isolated, definitive human datum, in stable equilibrium except for the buffets of the impinging forces that displace him in one direction or another. Self-poised in elemental space,

he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down upon him, whereupon he follows the line of the resultant. When the force of the impact is spent, he comes to rest, a self-contained globule of desire as before. Spiritually, the hedonistic man is not a prime mover. He is not the seat of a process of living, except in the sense that he is subject to a series of permutations enforced upon him by circumstances external and alien to him.

The later psychology, re-enforced by modern anthropological research, gives a different conception of human nature. According to this conception, it is the characteristic of man to do something, not simply to suffer pleasures and pains through the impact of suitable forces. He is not simply a bundle of desires that are to be saturated by being placed in the path of the forces of the environment, but rather a coherent structure of propensities and habits which seeks realization and expression in an unfolding activity. According to this view, human activity, and economic activity among the rest, is not apprehended as something incidental to the process of saturating given desires. The activity is itself the substantial fact of the process, and the desires under whose guidance the action takes place are circumstances of temperament which determine the specific direction in which the activity will unfold itself in the given case. These circumstances of temperament are ultimate and definitive for the individual who acts under them, so far as regards his attitude as agent in the particular action in which he is engaged. But, in the view of the science, they are elements of the existing frame of mind of the agent, and are the outcome of his antecedents and his life up to the point at which he stands. They are the products of his hereditary traits and his past experience, cumulatively wrought out under a given body of traditions, conventionalities, and material circumstances; and they afford the point of departure for

the next step in the process. The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the past process. His methods of life to-day are enforced upon him by his habits of life carried over from yesterday and by the circumstances left as the mechanical residue of the life of yesterday.

What is true of the individual in this respect is true of the group in which he lives. All economic change is a change in the economic community,—a change in the community's methods of turning material things to account. The change is always in the last resort a change in habits of thought. This is true even of changes in the mechanical processes of industry. A given contrivance for effecting certain material ends becomes a circumstance which affects the further growth of habits of thought—habitual methods of procedure—and so becomes a point of departure for further development of the methods of compassing the ends sought and for the further variation of ends that are sought to be compassed. In all this flux there is no definitively adequate method of life and no definitive or absolutely worthy end of action, so far as concerns the science which sets out to formulate a theory of the process of economic life. What remains as a hard and fast residue is the fact of activity directed to an objective end. Economic action is teleological, in the sense that men always and everywhere seek to do something. What, in specific detail, they seek, is not to be answered except by a scrutiny of the details of their activity; but, so long as we have to do with their life as members of the economic community, there remains the generic fact that their life is an unfolding activity of a teleological kind.

It may or may not be a teleological process in the sense that it tends or should tend to any end that is conceived to be worthy or adequate by the inquirer or by the con-

sensus of inquirers. Whether it is or is not is a question with which the present inquiry is not concerned; and it is also a question of which an evolutionary economics need take no account. The question of a tendency in events can evidently not come up except on the ground of some preconception or prepossession on the part of the person looking for the tendency. In order to search for a tendency, we must be possessed of some notion of a definitive end to be sought, or some notion as to what is the legitimate trend of events. The notion of a legitimate trend in a course of events is an extra-evolutionary preconception, and lies outside the scope of an inquiry into the causal sequence in any process. The evolutionary point of view, therefore, leaves no place for a formulation of natural laws in terms of definitive normality, whether in economics or in any other branch of inquiry. Neither does it leave room for that other question of normality, What should be the end of the developmental process under discussion?

The economic life history of any community is its life history in so far as it is shaped by men's interest in the material means of life. This economic interest has counted for much in shaping the cultural growth of all communities. Primarily and most obviously, it has guided the formation, the cumulative growth, of that range of conventionalities and methods of life that are currently recognized as economic institutions; but the same interest has also pervaded the community's life and its cultural growth at points where the resulting structural features are not chiefly and most immediately of an economic bearing. The economic interest goes with men through life, and it goes with the race throughout its process of cultural development. It affects the cultural structure at all points, so that all institutions may be said to be in some measure economic institutions. This is necessarily the case, since the base of action — the point of departure — at any step

in the process is the entire organic complex of habits of thought that have been shaped by the past process. The economic interest does not act in isolation, for it is but one of several vaguely isolable interests on which the complex of teleological activity carried out by the individual proceeds. The individual is but a single agent in each case; and he enters into each successive action as a whole, although the specific end sought in a given action may be sought avowedly on the basis of a particular interest; as *e.g.*, the economic, æsthetic, sexual, humanitarian, devotional interests. Since each of these passably isolable interests is a propensity of the organic agent man, with his complex of habits of thought, the expression of each is affected by habits of life formed under the guidance of all the rest. There is, therefore, no neatly isolable range of cultural phenomena that can be rigorously set apart under the head of economic institutions, although a category of "economic institutions" may be of service as a convenient caption, comprising those institutions in which the economic interest most immediately and consistently finds expression, and which most immediately and with the least limitation are of an economic bearing.

From what has been said it appears that an evolutionary economics must be the theory of a process of cultural growth as determined by the economic interest, a theory of a cumulative sequence of economic institutions stated in terms of the process itself. Except for the want of space to do here what should be done in some detail if it is done at all, many efforts by the later economists in this direction might be cited to show the trend of economic discussion in this direction. There is not a little evidence to this effect, and much of the work done must be rated as effective work for this purpose. Much of the work of the Historical School, for instance, and that of its later exponents especially, is too noteworthy to be passed over in silence, even with all due regard to the limitations of space.

We are now ready to return to the question why economics is not an evolutionary science. It is necessarily the aim of such an economics to trace the cumulative working out of the economic interest in the cultural sequence. It must be a theory of the economic life process of the race or the community. The economists have accepted the hedonistic preconceptions concerning human nature and human action, and the conception of the economic interest which a hedonistic psychology gives does not afford material for a theory of the development of human nature. Under hedonism the economic interest is not conceived in terms of action. It is therefore not readily apprehended or appreciated in terms of a cumulative growth of habits of thought, and does not provoke, even if it did lend itself to, treatment by the evolutionary method. At the same time the anthropological preconceptions current in that common-sense apprehension of human nature to which economists have habitually turned has not enforced the formulation of human nature in terms of a cumulative growth of habits of life. These received anthropological preconceptions are such as have made possible the normalized conjectural accounts of primitive barter with which all economic readers are familiar, and the no less normalized conventional derivation of landed property and its rent, or the sociologico-philosophical discussions of the "function" of this or that class in the life of society or of the nation.

The premises and the point of view required for an evolutionary economics have been wanting. The economists have not had the materials for such a science ready to their hand, and the provocation to strike out in such a direction has been absent. Even if it has been possible at any time to turn to the evolutionary line of speculation in economics, the possibility of a departure is not enough to bring it about. So long as the habitual view taken of a given range of facts is of the taxonomic kind and the

material lends itself to treatment by that method, the taxonomic method is the easiest, gives the most gratifying immediate results, and best fits into the accepted body of knowledge of the range of facts in question. This has been the situation in economics. The other sciences of its group have likewise been a body of taxonomic discipline, and departures from the accredited method have lain under the odium of being meretricious innovations. The well-worn paths are easy to follow and lead into good company. Advance along them visibly furthers the accredited work which the science has in hand. Divergence from the paths means tentative work, which is necessarily slow and fragmentary and of uncertain value.

It is only when the methods of the science and the syntheses resulting from their use come to be out of line with habits of thought that prevail in other matters that the scientist grows restive under the guidance of the received methods and standpoints, and seeks a way out. Like other men, the economist is an individual with but one intelligence. He is a creature of habits and propensities given through the antecedents, hereditary and cultural, of which he is an outcome; and the habits of thought formed in any one line of experience affect his thinking in any other. Methods of observation and of handling facts that are familiar through habitual use in the general range of knowledge, gradually assert themselves in any given special range of knowledge. They may be accepted slowly and with reluctance where their acceptance involves innovation; but, if they have the continued backing of the general body of experience, it is only a question of time when they shall come into dominance in the special field. The intellectual attitude and the method of correlation enforced upon us in the apprehension and assimilation of facts in the more elementary ranges of knowledge that have to do with brute facts assert themselves also when the attention is directed to those phenomena of the life

process with which economics has to do; and the range of facts which are habitually handled by other methods than that in traditional vogue in economics has now become so large and so insistently present at every turn that we are left restless, if the new body of facts cannot be handled according to the method of mental procedure which is in this way becoming habitual.

In the general body of knowledge in modern times the facts are apprehended in terms of causal sequence. This is especially true of that knowledge of brute facts which is shaped by the exigencies of the modern mechanical industry. To men thoroughly imbued with this matter-of-fact habit of mind the laws and theorems of economics, and of the other sciences that treat of the normal course of things, have a character of "unreality" and futility that bars out any serious interest in their discussion. The laws and theorems are "unreal" to them because they are not to be apprehended in the terms which these men make use of in handling the facts with which they are perforce habitually occupied. The same matter-of-fact spiritual attitude and mode of procedure have now made their way well up into the higher levels of scientific knowledge, even in the sciences which deal in a more elementary way with the same human material that makes the subject-matter of economics, and the economists themselves are beginning to feel the unreality of their theorems about "normal" cases. Provided the practical exigencies of modern industrial life continue of the same character as they now are, and so continue to enforce the impersonal method of knowledge, it is only a question of time when that (substantially animistic) habit of mind which proceeds on the notion of a definitive normality shall be displaced in the field of economic inquiry by that (substantially materialistic) habit of mind which seeks a comprehension of facts in terms of a cumulative sequence.

The later method of apprehending and assimilating

facts and handling them for the purposes of knowledge may be better or worse, more or less worthy or adequate, than the earlier; it may be of greater or less ceremonial or æsthetic effect; we may be moved to regret the incursion of underbred habits of thought into the scholar's domain. But all that is beside the present point. Under the stress of modern technological exigencies, men's every-day habits of thought are falling into the lines that in the sciences constitute the evolutionary method; and knowledge which proceeds on a higher, more archaic plane is becoming alien and meaningless to them. The social and political sciences must follow the drift, for they are already caught in it.

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THE FRENCH WORKMEN'S COMPENSATION ACT.

THE radical departure in social legislation which found expression in the workingmen's compulsory insurance laws of Germany properly attracted the attention of students of social reform throughout the world. Had the effect of this movement been confined within the boundaries of the German Empire, it would have been important to the foreign student chiefly as affording an interesting application of a new and striking method of social reform. Its rapid extension in other countries, however, has made it of great practical significance for every land. By far the most important result of this step on the part of the German government is the spread of its influence throughout Europe. Everywhere it has profoundly modified the whole current of thought regarding the solution of several of the most important questions affecting the welfare of the laboring classes.

It is difficult to mention another example where a new and radical form of social reform has gained ground with equal rapidity. Germany enacted her first compulsory insurance law in 1883. Not only has she persistently continued the elaboration of her system, but other nations have followed suit. Austria and Norway have no less unreservedly accepted the policy of compulsion, and the former country has organized a system for the compulsory insurance of workingmen against accidents and sickness scarcely less complete than that of Germany itself. In Italy, when the first proposal for a general system of workingmen's insurance was introduced in 1880, the idea of compulsion was summarily and almost unanimously rejected. Step by step, however, this position has been abandoned until the more recent propositions embody the

principle. In Switzerland the people, through the referendum, have pronounced overwhelmingly in favor of compulsion in some form or other; and it is only a question of time when a working system will be created. In England itself, that stronghold of individualism, the compensation of injured workingmen by their employers has now been made obligatory by the Workmen's Compensation Act of 1897.* Now France, where the principle of compulsion has been fought with the greatest determination, has fallen into line, and by an act approved April 9, 1898, has made it obligatory upon employers in the principal industries to indemnify at their own expense all of their workingmen injured while in the performance of their duties.

In each of these countries the history of the efforts leading up to this result is of interest, but in none more so than in France. The enactment of the present law for the compulsory compensation of injured workingmen is the culmination of efforts which began as far back as 1880, and have been continuously put forth since that date. The record of this movement furnishes a typical example of the various phases through which the question has passed. It shows how, under constant discussion, the fundamental features of a problem are gradually made clear, and the principles of the solution proposed gradually changed as the conditions to be met are better understood. In following the experience of France, therefore, we are able at the same time to study an interesting example of the evolution of a social problem.

Prior to the modern movement for the insurance of workingmen against accidents the prevailing law in Europe was substantially that known as the common-law liability of employers. In France, in spite of the great transformation in the conditions under which industry is carried on, the law regarding this point was still that em-

* The text of the English act is printed in this Journal for October, 1897.

bodied in Articles 1382-84 of the civil code of Napoleon enacted in 1804. Briefly stated, the provisions were that the employers were responsible to their employees only for those injuries which were the result of their (the employers') fault or the negligence of those directly representing them. The application of this principle meant that the employers were responsible only for the limited number of accidents that could be proved to have resulted from their negligence or wrong-doing. On the general principles of law the whole burden of proving negligence rested upon the workingman making claims for damages. The workingman thus bore the hardships entailed by accidents due not only to his own fault, but of all the numerous fortuitous accidents, of those caused by his fellow-employees and those whose occurrence, though resulting from the fault of the employer, could not be so legally proven.

It needs but this statement of the law to show its injustice under modern conditions. At the time the principle became definitely established as law, it fairly met the requirements of justice. The employee was then in intimate relations with his employer. Should an accident occur, it was an easy matter to determine the responsibility. The growth of production upon a large scale, however, changed all this. Under modern conditions the employee is often one of a thousand, working in a system of such complexity that it is frequently impossible to trace responsibility. Under the law, therefore, it was, with few exceptions, upon the employee that fell all the suffering caused by accidents. Leaving out of consideration the fact that the employer is better able to stand the financial burdens entailed by accidents, there was no more reason in equity why the employee should bear the consequences of accidents due to fortuitous occurrences and the acts of fellow-workingmen than the employer.

It has been necessary thus to state the character of the

prior legal provisions regarding accidents to laborers, in order to understand the full force of the demands made for their modification and the particular features which it was desired to change. The hardships that this régime entailed upon the workingmen became more and more marked as the development of the great industries went on. The most grievous injustice of the law was felt to be that provision which, in any attempt to recover damages, threw the burden of proof upon the employee. The first effort of reform, therefore, was directed to the modification of this feature. It was sought to accomplish what was called the inversion of proof (*renversement de la preuve*); that is, it was desired so to change the law that employers would be presumed to be responsible for all accidents unless they could prove that they had taken all needful precautions and were in no way to blame.

This movement led to a whole series of proposed laws, the first of which was that of M. Nadaud, introduced May 29, 1880. During the succeeding seven years no less than fifteen bills concerning this point were introduced in the French Parliament. This period constitutes the first phase of the evolution through which the question passed.

In the mean time Germany had entered upon her radical system of compulsory insurance. It was now recognized that the change of the law regarding the burden of proof represented but a slight measure of reform. The extensive study given to the subject brought out the fact that a large proportion of accidents were due to occurrences practically beyond human control, or at least to causes the responsibility for which could not be traced. To the two classes of accidents due to the fault of the employer and of the employee there was therefore added a third class,—those due to the industry itself. As statistics began to be collected, it appeared that less than 12 per cent. of accidents could be attributed to the di-

rect fault of employers. Considerably over 50 per cent. were found to be due to causes of the third class.

As soon as this fact became recognized, the query naturally arose why the burden of these latter accidents should be made to rest exclusively upon the employees. It was argued that it was the industry that caused them, and that it was upon the industry that in some way the support of their consequences should be made to fall. In other words, there seemed to be no reason why this liability should not constitute as legitimate an item of the cost of production, to be taken into consideration and borne by the employer, as that of the breaking of machinery, fire, or loss in any other way.

This constitutes what is known on the continent as the principle of trade risk (*risque professionnel*). It completely does away with the old law of employer's liability as expressed in Articles 1882-84 of the civil code. In its place it recognizes that under modern conditions accidents are inevitable; that the greater number are inherent in the industry itself; and that, therefore, their indemnification should be made to fall upon it, or, what is the same thing, upon the employer.

This principle secured its first indorsement in France in 1888, the Chamber of Deputies passing a bill on July 10 of that year declaring broadly that in all of the principal industries the employers should be required to indemnify any workingmen for injuries received while working, regardless of the cause, with the sole exception of those wilfully induced. It is interesting to note how under examination point after point in the controversy was gained, without any legislation actually being consummated. Henceforth the principle of *risque professionnel* was definitely accepted, and made the point of departure for future propositions.

Further than this it would seem that the doctrine of employer's liability could not go. Yet, even with so

much established, only a beginning would be made in solving the problem of accidents to labor. The basis of future action only had been determined. The legal question had been solved, but the social problem remained. Though the position of the laborer before the law would be infinitely improved, he would still have to endure the hardships resulting from many accidents. As matters then stood, the workingman would secure compensation for an accident only as the result of an action at law, with delays, expense, and uncertainties which he was in no position to bear. One of the most intolerable features of the old system was the amount of litigation that it engendered. More and more the feeling developed that, if the employee was to be indemnified for injuries, some method must be devised by which this aid could be made both more certain and more promptly available.

Hence we have the new system, as proposed by the bill passed in the Chamber of Deputies. It sought to accomplish the end by introducing the important principle of fixing in advance, according to the severity of the injury received, the amount of the indemnity that would be paid. The bill passed by the Chamber of Deputies, when sent to the Senate, met with considerable opposition. The principle of *risque professionnel*, as has been said, was frankly accepted. It was held, however, that an exception should be made, not only for accidents purposely caused, but also for those due to the *faute lourde*, or gross negligence, of the victims. Theoretically sound, the recognition of this exception annulled to a large extent the advantages hoped for under the new system, by leaving the door still open to any amount of litigation. The same question had been thoroughly fought out in Germany, and there decided in favor of the position taken by the Chamber of Deputies. The difference, however, continued to block legislation for several years, the Chamber of Deputies only accepting a compromise at the last moment in the bill which finally became the present law.

By this time, also, still another important feature requiring settlement became prominent,—that of compelling the employers to provide for the obligation thrown upon them by means of insurance. It was feared that otherwise the injured workingmen might not receive the indemnities due them, or at least not until after considerable delay. German experience had shown that in each industry accidents occurred with a surprising uniformity from year to year, and that the risk was therefore of a kind well adapted to be covered by insurance. All parties were now agreed that insurance of some kind was desirable. But the most diverse opinions existed as to whether it should be made obligatory or not. In no country has the contest between these two principles been fought with greater determination.

It is not within the scope of this paper to attempt a presentation of the various arguments adduced in favor of each position in this controversy. It should be stated, however, in order to show the conditions of the problem, that at this time the German and Austrian systems of compulsory insurance had been in operation but a short time; and it had by no means been demonstrated that they were successful institutions. Their first years' operations necessarily revealed imperfections and encountered difficulties that were made the most of by opponents of the system. In France, also, employers of labor had already voluntarily done a great deal towards insuring their employees against accidents. In the railroad and mining industries such action was almost universal, and many large employers of labor in other industries had done the same. France also had long possessed a National Accident Insurance Bank, which, though voluntary, had done something in the same direction. It was the work of these institutions which made the contest against compulsory insurance such a strenuous one.

The other features of the problem had now been prac-

tically agreed upon ; and the question had fairly resolved itself into that of compulsory against voluntary insurance, and whether an exception should be made in the case of *faute lourde*. The third and last phase of the evolution of the problem had thus been reached. Its beginning may be marked by the year 1890, when M. Jules Roche, the Minister of Commerce and Industry, on June 28 introduced, on behalf of the government, a proposition embodying for the first time the principle of compulsory insurance.

This proposition was made the basis of a new bill reported by the Commission on Labor, which after a prolonged discussion passed the Chamber June 10, 1893, by the decisive vote of 493 against 4. The bill not only embodied the principle of compulsory insurance, but provided for the organization under government auspices of an elaborate system of district insurance institutions, through which the employers of each locality were to insure themselves. The Senate, however, still remained strongly opposed to compulsory insurance, and sought by various ingenious methods to avoid this necessity, while at the same time providing adequate guarantees that there should be no failure in the payment of the indemnities.

It will afford little matter of instruction to trace the different stages of the legislative action that ensued. Both the Senate and the Chamber passed bills on the subject, but for some time neither seemed willing to abandon the position that it had assumed. Finally, in August, 1897, England, which up to this time had paid less attention to the subject, passed her compulsory Workmen's Compensation Act. The passage of this act undoubtedly exerted a great influence upon the French legislature. Not only did France, as will be seen, borrow a number of suggestions from it, but it brought home to the Assembly that France was being left behind by

all of its neighbors in regard to this important question. The result was that the two houses, by mutual concession, at last came to an agreement; and the act of April 9, 1898, was finally passed.

The text of this important measure is printed in the Appendix. The statement of the mere details of the law can therefore here be largely dispensed with and attention be concentrated upon the essential principles incorporated in it.

It is evident from the foregoing historical sketch that the composition of a compulsory compensation act is by no means a simple one. It must contain provisions concerning a great many points: the persons responsible for the payment of the indemnities, the industries to which applicable, the amount of the benefits, the method of determining in each case the benefit due, and the whole machinery of reporting accidents, of keeping records, of providing for enforcement and the like. Each of these considerations can be met in various ways; and the provisions concerning each are of interest, if one wishes really to understand the scope and character of the new system which France has adopted.

The act first broadly states that any employee in certain industries specified in the act who, while in the performance of his work, is injured by an accident not intentionally adduced, causing him to be incapacitated for work during more than four days, or the heirs of a workingman killed by an accident, shall have the right to an indemnity, according to a fixed scale of benefits, to be paid by the employer.

As in both the German and English legislation, the law is limitative; that is, has been made to apply only to certain specified industries in which the risk of accidents is considered to be especially great. The list, however, is very comprehensive. It includes the building trade, all

factory, workshop, and work-yard work, transportation by land and water, the operations of loading and unloading, work at public storehouses, mines and quarries, and in addition any industrial work in which explosives are used or manufactured, or in which use is made of a machine operated by other than human or animal labor.

The scale of indemnities provided for is as follows:—

(1) In case of a temporary incapacity to labor, a daily benefit equal to one-half the wages the victim was receiving when injured, beginning with the fifth day of incapacity.

(2) In case of a partial but permanent incapacity, a benefit equal to one-half the amount of the loss of wages caused by the accident.

(3) In case of a permanent and total incapacity to labor, a yearly pension equal to two-thirds of the annual wages formerly earned by the victim.

(4) In case the accident results in death, the following pensions are paid. (a) To the widow, if there is one, a pension equal to 20 per cent. of the annual wages of the deceased; while, in case she remarries, she will receive a lump sum equal to three years' pensions, in definitive liquidation of her claim. (b) To children left with one parent, and under sixteen years of age, a pension, until that age is reached, equal to 15 per cent. of the parent's annual earnings, if there is but one child; of 25 per cent. if there are two, of 35 per cent. if three, and of 40 per cent. if four or more. If the children have neither father nor mother, the pension is raised to 20 per cent. of the deceased's wages for each one, but the total cannot exceed 60 per cent., a proportional reduction being made, if necessary, to bring them within this amount. (c) If the victim leaves neither wife nor children, each ascendant, or descendant under sixteen years of age, who was dependent upon the deceased for support, will receive a pension equal to 10 per cent. of the latter's former wages, the total in no case, however, to exceed 30 per cent. of such wages.

In the case of all of these indemnities, however, it is provided that, if it is shown that the accident was due to an inexcusable fault on the part of the victim, the pension given can be diminished more or less, according to the circumstances of each case. If, on the other hand, the accident resulted from the inexcusable fault or negligence of the employer or his direct representative, the indemnity can be increased within the limit that it cannot be made to exceed the loss of wage-earning capacity suffered by the injured workingman, or the total amount of his annual wages in case of his death. The principle of *faute lourde*, as it is called, was thus incorporated in the act, though in a modified form, as some benefit will be given in any event. It will depend entirely upon the policy pursued by the courts in fixing the amount of the indemnities whether the inclusion of this provision will be of great or little importance.

All of the benefits and pensions are non-transferable and exempt from attachment for debt. The mode of determining the annual earnings of the deceased, in order to fix the amount of the pension,—often a difficult matter,—is carefully provided for, but can best be seen by consulting the act itself. The important limitation, however, should here be noted that, in the case of workingmen earning over 2,400 francs, the above schedule of benefits applies only to that sum, the rate of benefits as regards the surplus being at only one-fourth that of the regular rates.

Workingmen of foreign nationality receiving pensions under this act or leaving France will be paid a sum equal to three years' benefits in final settlement of their claim. Heirs or families of workingmen of foreign nationality, if living outside of France at the time of the accident, are not entitled to any benefits.

The entire expense of the payment of these benefits, as has been said, is placed upon the employers of the injured

workingmen. In addition, they are required to defray all medical, pharmaceutical, and funeral expenses, which last must not exceed a maximum of 100 francs in any one case.

The manner in which benefits shall be paid constitutes an important feature of any indemnification system. It is evident that the framers of this law had a choice between two different methods. After the amount of the benefit had been determined, it could be paid to the victim or his family directly as a lump sum; or it could be converted into an annuity or pension to run until the death of the recipient or the expiration of the period determined upon. The system of pensions or annuities has never taken firm root in America. Throughout Europe, however, the preference in practically all kinds of workingmen's insurance is for this form of payment. The system of liquidation by means of single payments is, however, not without advocates. It is maintained that, if the injured workingmen or their families could obtain at once all the benefits coming to them, they could open a shop or enter into some occupation whereby they could gain an independent livelihood, but that, under the pension system, they are forced to remain idle, and the benefits by themselves are not sufficient to support them except in the most frugal way.

On the other hand, it is maintained that, while this might be true in isolated cases, in the great majority of instances the money would be lost; that the workingmen have few opportunities for profitably investing considerable sums of money and little skill in taking advantage of those that do arise; and that, therefore, unless the money is paid over to them in the form of regular benefits at certain intervals of time, the whole purpose of the act, that of providing for workingmen and their families left dependent by accidents, would be defeated.

A great deal can thus be said on both sides. The present bill, it would seem, has made a very happy compro-

mise between the two systems. The pension plan has been adopted as the basis or regular mode of procedure; but it is provided that, after the amount of the pension has been definitely determined, the beneficiary can demand that the pension be reduced one-fourth, and there be paid to him in cash a sum equal to one-fourth the sum necessary to constitute the capital for the payment of the pension, calculated according to the tables prepared for this purpose by the national old age pension fund (*caisse des retraites pour la vieillesse*). The workingman entitled to the pension can also demand that it, or the sum remaining after a one-fourth deduction has been made as above, be converted into an annuity revertible upon his death to his wife. In this case, of course, the value of the pension is reduced so that no augmentation of the charges placed upon the employer will result. This is a very useful device. The injured workman will thus not only receive the pension during his life, but on his death his wife, if she survives him, will continue to receive it.

In connection with this question of the manner in which the benefits are paid, the act contains important provisions by which the employers can in great part relieve themselves of the actual work of paying the benefits. France, as is well known, possesses a very efficient system of mutual aid societies, through the medium of which a great many workmen are insured against sickness and slight accidents, usually assimilated with accidents. Employers of labor have done a great deal in the way of encouraging the work of these organizations by aiding their employees to create and maintain societies of this order, to which they have often been liberal contributors. In all proposed action concerning workingmen's insurance or accidents to labor, great care has been taken to interfere in no way with their operation, but, if possible, to make use of and encourage their development. The present act, therefore, contains the important provision that

employers can relieve themselves of the burden of taking care of all minor accidents or those causing an incapacity to labor not exceeding ninety days (a class which includes the great majority of accidents) by turning over this work to a mutual aid society organized among their employees or of which the latter are members. The conditions under which this can be done are: that the constitution of the society must conform to the model approved by the government; that the employer shall pay a certain proportion of dues as agreed upon between him and his employees, but which cannot be less than one-third; and that the societies furnish in all cases of accidents requiring indemnities medical and pharmaceutical aid and a daily benefit equal to one-half of the victim's wages, or, if not, that the employer add enough to bring the benefits up to that amount.

This permission accorded by the law is a very beneficial one. A considerable number of employers are already practically fulfilling these conditions. A great deal of detail of management is got rid of by the employer, and misunderstandings and controversies regarding benefits are both less likely to occur and are more easily settled when they do arise. Finally, the effect upon the working-men themselves is good, as they are encouraged to increase the amount of the benefits that they will receive if injured by making themselves regular payments to their societies.

A somewhat similar method of providing for the payment of the more important pensions which are granted in the case of permanent invalidity or death can also be followed by the employer. The employer, in case the payment of a pension is decreed, cannot be required to set aside a capital sum sufficient according to actuarial calculations to provide for the payment of the pension, but can make the payments as they become due out of his general funds. If, however, he desires to relieve himself once for all from this liability, he can do so by paying to

the *caisse nationale des retraites pour la vieillesse* such a capital sum; and the latter institution will thenceforward assume the payment of the pension. To accomplish this duty, the *caisse* is required within six months from the date of this act to prepare a schedule of charges, taking account of the mortality of the victims of accidents and their heirs.

The question of devising means for making the payment of the benefits absolutely certain and immediate—a problem solved by Germany and Austria by means of compulsory insurance—has, as we have seen, been the source of greatest difficulty for the French legislature. The Chamber of Deputies believed that this could only be accomplished through compulsory insurance, while the Senate desired, if possible, to avoid this necessity. The Senate has finally carried its point. The employers have not been compelled to contract insurance for the benefit of their employees. To make the payment of the benefits certain, however, the following system of guarantees has been created:—

For the payment of the medical and funeral expenses and the benefits allowed in cases of temporary incapacity, the victims have a lien on the property of the employers. For the payment of the pensions accorded to those suffering from permanent incapacity or to the heirs of workingmen killed by accident, a more serious system is provided. Here the State itself undertakes to guarantee their payment. It is provided that, if the employer, or the company through which he has contracted insurance, fails to pay the pension due, such pension will be paid by the *caisse nationale des retraites pour la vieillesse*. For this purpose there will be accumulated in this institution a special guarantee fund, to be supported by a special tax upon the manufacturers and employers in the form of 4 centimes additional to the *impôt des patentés*,—the French business tax,—and, in the case of mine operators,

of a tax of 5 centimes per hectare of mine field conceded to them for exploitation.

In all cases where the bank has to assume the payment of a pension, it is given the right and is directed to proceed against the defaulting employer or insurance company, by an action at law, to recover the amount paid on his or its behalf. The exact organization of this service in the national insurance bank will be determined by subsequent administrative orders. It is, furthermore, provided that all companies or societies undertaking the insurance of employers against the risks comprehended by this act shall be subject to the oversight and control of the government, and may be required by the latter to maintain such reserve funds as are deemed to be proper. The expense of this oversight will be defrayed by means of contributions required from the companies supervised as determined by the minister of commerce.

Finally, in case an employer for any reason goes out of business, it becomes obligatory upon him to pay to the *caisse nationale* a sum sufficient to contain the payments of the pensions for which he is liable, unless he can furnish a guarantee of its payment, the nature of which will be determined by a general administrative order yet to be issued.

The administrative details concerning the methods by which accidents are reported, and the exact amount of the benefits fixed, present no features of general interest, and can be briefly passed over. The responsibility for reporting accidents rests upon the employer. He is required, under penalty of fine in case of non-compliance, to report to the mayor of the commune in which the accident occurred all accidents causing a workingman to be unable to perform his work for forty-eight hours, giving specified details concerning each accident. In case the return shows that death or permanent incapacity to labor either has resulted or is likely to result, the mayor must

immediately communicate with the justice of the peace of the canton, which latter official must then begin an investigation concerning the causes, nature, and extent of the injury and the daily and annual wages of the sufferer or deceased. In doing this, he may, if necessary, call in the assistance of an expert. Unless a material impossibility, this inquiry should be closed within ten days from the occurrence of the accident, and the results transmitted to the president of the civil tribunal of the arrondissement.

All controversies relative to the funeral and medical expenses and the benefits granted in the case of temporary incapacity are settled finally by the justice of the peace of the district. In regard to the other indemnities or pensions the president of the civil tribunal must, within five days after the transmission of the documents to him, as described above, call before him the employer and the injured workingman, or his representatives. If an agreement concerning the amount of the indemnity can be reached, the amount is then definitely fixed. If such accord cannot be reached immediately, a proceeding similar to a regular action at law must be had; and an appeal can be taken from the decision rendered, according to the ordinary rules of law.

In the opening paragraph of this article the effort was made to indicate the significance of the new law of France which we have been considering. It lies not so much in the fact that it is an example, however interesting, of the economic policy of a single country, as that it is a typical illustration of a great movement which during the past ten years has swept over England and the continent of Europe, completely changing the time-honored policy of the most advanced nations concerning a question of deep importance. France has joined Germany, Austria, Great Britain, and Norway in the indorsement of the

principles underlying the system so boldly inaugurated by the first of these countries,— that the compensation of injured workingmen should be compulsory upon their employers. Thus in all these countries the position so long striven for, that the burdens entailed by industrial accidents should be made to constitute a normal item in the cost of operation or production, and thus to be borne by the employers, has been unequivocally established.*

A brief comparison of the French act with those of other countries with which it is so akin will enable us still further to understand the essential features of the movement and the points peculiar to the French act also. The French act is, in almost every respect, more similar to that of Great Britain than to those of Germany and Austria. The two former, indeed, have little in common with the latter beyond their indorsement of the fundamental principle of the compulsory compensation of workingmen. Even in this particular there is an important difference. The German and Austrian laws are the more advanced measures as regards the adoption of this principle, the only exception to the right of an indemnity being where the accident was intentionally brought about by the victim. England, in addition to this provision, makes the further exception of accidents caused by "serious and wilful misconduct"; and France, as we have seen, permits the serious and "inexcusable fault" of either the employer or employee to influence to some extent the amount of the indemnity. These qualifications on the part of the French and English acts, it seems to me, are much to be regretted. Though apparently equitable, they throw open the door to litigation, and tend to create friction between labor and its employer, which it is one of the purposes of the acts to remove. Much, however, will depend upon the spirit in which the acts are administered.

* In the case of Austria the slight exception should be made that one-tenth of the funds necessary for the payment of the benefits is collected from the workingmen by deductions made from their wages.

The most important difference, however, between the two systems is that the principle of compulsory insurance, so important a feature of the German and Austrian laws, was rejected. Both France and England were unwilling to incorporate in their legislation provisions requiring such an enormous extension of the activities of the State, with the consequent necessity for the organization of a complex administrative system and the increase of governmental bureaucracy. At the same time the great desirability of insurance, and the important part that it can play in the successful operation of the law, was fully recognized. The principle of compulsion was only rejected because it was firmly believed that the employers would themselves see the necessity and usefulness of insurance, and would voluntarily organize institutions for this purpose.

Both the French and English acts, therefore, specifically provide for this action on the part of the employers. The French system proposes to make use of existing institutions in her excellent *sociétés de secours mutuel* for all minor accidents, and her *caisse national des retraites pour la vieillesse* for indemnities in the nature of pensions running a number of years. In addition to this the employers are left at perfect liberty to take such action as they may deem desirable in the way of insuring themselves against these risks either in private companies or by the formation of mutual insurance institutions. Thus the operation of such admirable institutions as the *caisse syndicale d'assurance mutuelle des forges de France* is in no way interfered with, and their members can continue to perform the obligations imposed by the act through these or similar institutions.

The result of the act undoubtedly will be greatly to encourage the organization of voluntary mutual insurance societies by employers of the same industry or locality. Indeed, in a way the success of the act depends upon the

extent to which this is done. In thus trusting first to private initiative, France and England have played the part of wisdom and discretion. The question of insurance is one that can easily be left to future action. The important point is to establish the basis of compulsory compensation for accidents. If experience demonstrates that this is not sufficient, additional legislation concerning insurance can easily be had.

The two important points of compulsory compensation and compulsory insurance have here been given full consideration. Other features are matters of detail and minor importance. As regards the form of the benefit, England has adopted the system of the payment of a lump sum in final liquidation of all claims, though providing that this sum can be used for the purchase of an annuity from the National Debt Commissioners; while France has adopted the reverse by making the annuity system the normal mode of settlement. The cause for this difference lies in the different temperaments and habits of the people of the two countries.

In both countries, as well as in Germany and Austria, the amount of the indemnity is determined by the usual wages of the sufferer, and, what is of great importance, is as far as possible definitely fixed in advance by the law itself. In all, also, the system of determining the amount of the indemnity according to the degree of incapacity rather than by attempting to draw up a scale of benefits according to the specific kind of injury received has been followed.

The French act, it will be observed, applies to all mine and quarry employees. This in no way conflicts with the miners' compulsory insurance act of June 29, 1894. That act made it obligatory upon mine operators to insure all of their workingmen against sickness through mutual aid societies, and against old age through the national old age insurance bank or through specially created funds.

The present law, therefore, completes this scheme by making it equally compulsory upon mine operators to provide for the compensation of their employees injured by accidents. In doing so, they are allowed to make use of the institutions now used for sick and old age insurance.

In concluding this analysis, mention should be made of a point in which the act seems to be open to criticism. A valuable body of statistical data concerning the frequency of accidents — their causes, nature, and results — will come into existence as the result of the enforcement of the act. It is very desirable that this material, as well as that showing the extent to which insurance is practised, should be collected and made public. It is also a matter of practical importance to determine the financial burdens thrown upon employers in the different industries by the new system. The act, however, seems to make no provision for the centralization and publication of this information or the showing in any way of the results of the operation of the act. Under the French system of legislation however, a law frequently but lays down a general rule, leaving the details to be supplied by subsequent administrative orders or decrees. It is possible, therefore, that this point has not been neglected, and that the results will be published in some way.

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THE GAS SUPPLY OF BOSTON.*

I.

PERHAPS no companies coming under the designation of "municipal monopolies" offer a more profitable or interesting subject of study than the gas companies. None could well come into closer contact either with the municipal government or with the public at large. All scientific students of modern social and economic conditions, recognizing gas as a necessity of our present civilization, admit that the gas supply must be in the hands either of the public or of a private monopoly under strict public control. The belief that competition works advantageously in the supply of this and similar services has long been abandoned by careful observers; but, unfortunately, the general economic ignorance of the mass of voters, played upon by interested promoters and speculators, has kept the legislative world from accepting the doctrine of monopoly in this industry. The fact that the gas business is highly technical gives, according to American practices, an excellent opportunity for the corporations

* The chief sources of information on this subject are:—

(1) The reports of hearings on lighting bills, held by legislative committees during the sessions of 1884, 1885 (two committees), 1886, 1887 (two committees), 1888, 1889, 1890, 1891, 1894, 1896, and 1897. Except for the years 1896 and 1897, these have all been printed. In every case the counsel on both sides have printed their arguments in full. The report for 1885 includes the report of a special investigation by the State Board of Health on water gas.

(2) The special investigation by order of the legislature of 1893 on the alleged illegal action and relations of certain of the Boston companies (House Document 1008 of 1893). This makes a volume of more than 1000 pages, and is a veritable mine of information.

(3) The annual reports since 1861 of the State Gas Inspector, and the annual reports since 1886 of the Board of Gas and Electric Light Commissioners.

The technical journals of the gas industry and the complete files of all the Boston dailies for the last thirteen years, as well as the miscellaneous literature on the subject, have been consulted; but every material statement of fact is based on sworn testimony or official record.

conducting the business to keep their accounts secret, and then make vague and unconfirmed claims as to the cost of manufacturing and as to the importance of new inventions, discoveries, and processes.

So far as my observation goes, no other single portion of municipal experience shows in such glaring light the weakness of American governments, and at the same time illustrates so many important phases of the problem of the management and control of private corporations, as the history of the gas supply of Boston and the manipulation of the stocks and debts of the companies engaged in it. The handling of Boston gas securities by foreign (*i.e.*, extra-state) corporations, organized expressly for that purpose, makes a distinct and remarkable chapter in the development of the business corporation and trust. The history of the financing of these companies, with all their evasions and circumventions of law, is doubly interesting, in view of the fact that Massachusetts is recognized as second to no State in the Union either in the intelligence and high character of her citizenship and legislature or in the care with which she drafts and enforces her laws. The fact that these things go on in Massachusetts is noteworthy also from the fact that she alone of all the States has established an able, honest, and permanent State commission, whose duty it is not only to see that the gas companies conform to all the laws of the State, but also, within a very wide discretion, to protect the consumer against wrong and injustice where no law protects him. It is but fair to say at this point that the events of which I write began before the Gas Commission was established in 1885; but they have continued since that date. Moreover, it may be said here, further, that, notwithstanding the unsatisfactory condition of the gas situation in Boston to-day, the history of the attempts of the State of Massachusetts to control her gas companies during the last thirteen years offers not only some of the most interesting,

but also some of the most promising experiments in the annals of our American commonwealths.

In the present paper I propose to discuss some points in this exceptionally unique history.

The Boston Gas Light Company was organized by special charter in 1822, with a capital stock of \$75,000. After the customary diseases of failure, reorganization, and the like, to which infant corporations in those days were subject, it settled down in 1836 to supply Boston proper with gas. With increase of business came increase of capital by special legislative permission. In 1874 the company found itself with a paid up share capital of \$2,500,000, and authority to add a million to this at its pleasure. But this authority has never been used, and the capital stands to-day where it did in 1874. In 1861 the State established the office of State Gas Inspector, and provided for the first official inspection in this country of the lighting power and purity of all gas sold in the State. By an act of 1852 the Boston company was required to sell any new issues of stock for cash, and not below par. A similar provision was introduced into the general law of 1868. This, also, forbade the payment of dividends in anything but cash, and prohibited the paying of cash dividends from the proceeds of the sale of stock. The act of 1868 was followed by that of 1873, requiring all increase in the capital stock of existing companies to be sold at auction.

From time to time proposed new companies sought from the city and the State the privilege of entering into competition with the Boston company in the territory already occupied by it. Until 1884—almost two generations after the founding of the Boston company—no attempts at actual competition were made. But new companies were chartered by the State, with rights of operating in Boston and its suburbs, subject to the consent of the local authorities controlling the streets. The

outcome of this was the organization and operation of several suburban companies, some of which are now wholly within the corporate limits of the city. If the territory of any one of these overlapped that of the Boston company, the two came to an understanding, by which the Boston company remained in exclusive control of the city and the new company of the suburb. For instance, when the Roxbury company was established, the Boston company sold its pipes in Roxbury to the new company. Thus any actual paralleling of pipes was avoided.

This process continued until 1874, when there were in all seven companies within the corporate limits and one without the city, supplying gas to Boston each in a separate district. These companies had share capital—all supposed to have been paid in cash in full—and mains, as follows:—

	<i>Date of organization.</i>	<i>Capital.</i>	<i>Miles of pipe.</i>
Boston Company	1822	\$2,500,000	105
Charlestown Company	1846	500,000	25
Roxbury Company	1852	600,000	48
South Boston Company	1853	440,000	21
East Boston Company	1853	220,000	10
Jamaica Plain Company	1853	173,000	18
Dorchester Company	1854	400,000	33
		<hr/>	<hr/>
		\$4,833,000	260

In addition to the above the Brookline company, organized in 1853 with a total capitalization in 1874 of \$350,000, had the right, after 1854, of supplying the Brighton district of Boston with gas. Meantime something like a dozen additional companies had been organized, but after an ephemeral existence had disappeared, leaving no traces behind.

The Boston company was at this time selling 612 million feet of gas at a nominal price of \$2.50 per thousand; but reductions for public lighting and rebates to large private consumers brought the net average down to \$2.39 per thousand. The six minor companies were together

selling 281 million feet at prices ranging from three to four dollars per thousand. All the companies were paying dividends of from 8 to 10 per cent. annually. The Boston company had for many years paid 10 per cent., with 11 per cent. for a single year. In addition to this dividend the company was adding to its plant from year to year from its surplus earnings.

About this time great improvements, tending to cheapen the cost of manufacturing gas, were taking place everywhere, and wealth and population were rapidly increasing. It was plain therefore that if these companies could hold their respective fields and maintain traditional prices, their prospects for large gains without the necessity of great enterprise were very good.

Under these circumstances, especially when so-called competition was rife elsewhere in this business, it is not strange that attempts to form competing companies became frequent and persistent. It goes without saying, too, that the complaints against the old companies, necessary to pave the way for the new ones, were carefully cultivated by interested parties. Public hearings in favor of a new competing company were given as early as 1867. In 1874 a new company was actually organized, with an authorized share capital of \$1,000,000. The board of aldermen held long public hearings on the advisability of permitting this company to compete. The report of these hearings was considered of enough importance to be printed in full (229 pages). As usual in such cases, the new company set forth the beauties of competition as the only means of procuring cheap gas, and vaunted new processes by which it would be enabled to sell gas at \$2.00 instead of \$2.50 per thousand feet. There was no pretence that the Boston company was corrupt or a violater of any law. But the cry was, "Down with monopoly!" It was said that the Boston company, having what it considered a sure and rich monopoly, was under

no inducement to adopt new processes or means of cheapening the cost of manufacture, and consequently would never lower the selling price. The management was declared to be ultra-conservative and even antiquated. The petition of the new company was denied, but the pressure of outside interests for an entrance into the Boston gas field was so great that the city government in 1877 appointed an excellent commission of three persons to consider the whole question of the relation of the public to the gas supply. A liberal appropriation was made for the purposes of this investigation. The commission, consisting of Mr. C. F. Choate, Mr. John F. Osgood, and Dr. E. S. Wood, presented an elaborate and highly creditable printed report, based on a thorough study of the general nature and theory of the business, and on all the facts obtainable under our practice of allowing corporations of this kind to regard their books and accounts as strictly private. The conclusions of the commission are in keeping with the best theoretical views which have been reached to our own time. The commission showed the impossibility of effective competition, set forth the necessity of monopoly, and recommended control of the monopoly, through strict publicity of accounts, by means of an independent and impartial commission. While not indorsing public ownership as a desirable solution of the problem, the commission recommended that the city seek from the State the authority to establish its own gas plant, as a menace to bring the companies to terms and keep them in check until permanent and effective means of control could be perfected.

Here the matter rested until 1884, when a new company, organized under the general law, was kept out by the veto of Mayor Martin. This company never did any business, but the organization was maintained; and after several transfers the ownership passed to the Bay State Gas Company, of which more hereafter.

So far, although the gas companies had wisely refrained from attempts at competition, they had been owned at home, and controlled and managed by those amenable to local opinion. They had, further, in all essentials kept the spirit as well as the letter of the law.

Meanwhile discoveries had been made elsewhere, enabling gas to be made by the decomposition of water instead of by the distillation of coal. This process was so much cheaper than the old ones that a revolution in the whole industry was inevitable. Any large city could now offer an enormous harvest to the owner of water gas patents. Consolidation of corporations of all sorts had already become the order of the day. Besides this the owner of such patents now had a key which was certain to effect an entrance to almost any gas field under the claim of cheaper processes. At the same time the new process was so little known to the general public that the owners alone could have any idea of what would be a fair price for gas made by that process.

In 1884 Mr. J. Edward Addicks, of Philadelphia, appeared upon the scene in Boston with strong financial backing, and fairly loaded down with water gas patents. In December of that year he formed the Bay State Gas Company of Massachusetts, with a capital stock of \$500,000, the maximum allowed under the general law of 1879. A new era in the municipal history of Boston began when this company sought permission to lay pipes throughout the whole city. Permission was finally voted by the board of aldermen, 7 to 5, after incorporation of an amendment offered by Mr. Hart, afterwards mayor, to the effect that the permission was conditioned on the acceptance of the agreement on the part of the company actually to parallel all the gas pipes in Boston. The mayor approved this vote on February 16, 1885. On the same day the company filed its acceptance with the city, stating that it "agrees that it will at once commence laying pipe

in every section of Boston, and will not stop the work until it has laid pipe in every street, lane, and highway in which gas pipes are now laid." A vigorous effort was made in the board of aldermen to fix the maximum price of gas at \$1 by this ordinance, but the amendment to that effect was lost.

In 1880, probably at the instigation of the coal gas companies, but upon the suggestion of the State Gas Inspector, the legislature had passed an act prohibiting the sale of gas containing more than 10 per cent. of carbonic oxide. This act effectually barred all water gas. It was passed without attracting any particular attention, and apparently without any conception of its true significance on the part of the legislature or of the public. The statutory provisions in regard to the maximum capital stock of gas companies, and the virtual prohibition of the sale of water gas, made the old companies feel reasonably safe at the beginning of the Bay State enterprise. But the vigor, daring, and methods of the new company soon caused them to change their minds. For the Bay State Company let no session of the legislature go by, including the one before the company was organized, without making onslaughts on that body for the permission to increase the capital stock to \$5,000,000, to manufacture water gas, and to lease and consolidate with all the other companies in Boston. It was probably the influence of the different gas companies at the State House, from 1884 to 1891, more than that of any other interests, that called forth the scathing denunciation of the lobby by Governor Russell in his first inaugural address, January 8, 1891, and led to the act regulating the lobby.

The subsequent history of the Bay State Company shows that, although it signed the agreement to compete, and although the law fixed its maximum capital at \$500,000, and forbade the sale of water gas, it intended to consolidate the companies, and then sell water gas, and some-

where and somehow raise enough money to carry out this consolidation. The company began, almost as soon as it got its permit, to construct enormous plants for the manufacture of water gas, and to lay large pipes which could easily be connected with the distributing systems of the old companies. The old companies became greatly alarmed at this, as well as at the financial operations of the Bay State, and finding themselves unable to meet the cry of cheaper gas through new processes and competition, sought the protection of the State in other ways. In the legislative session of 1885, among an avalanche of bills for controlling corporations of various sorts, was one for creating a board of gas commissioners with greater powers of inspection and control over these companies than any other State commission in any State has ever been given over any kind of corporations. This bill, which, after a most bitter struggle, finally became chapter 314 of the Acts of 1885, was drawn by the attorney of the Boston Gas Company, introduced into the board of aldermen by his brother, indorsed by the city government, and then introduced to the legislature upon petition of the city of Boston.

Before taking up the work of this commission, let us follow for a time the further activities of the Bay State Company. By continuous and vigorous effort it overcame the opposition to its various demands in the legislature by two acts approved on the same day (May 29, 1888) so far as to obtain a virtual permission to make water gas and to increase its capital stock to \$2,500,000. The permission to increase its capital stock made the issue subject to the general laws on that subject. These conditions were so stringent and so foreign to the company's method of doing business that it never issued any stock under this act.

But, before the passage of these acts, the company had engaged in some of the boldest and most remarkable

financiering to be found in the history of American corporations. On March 11, 1885, the Bay State Company, by vote of its directors, made a contract with the founder of the company, Mr. J. Edward Addicks, for the construction of its works for the sum of \$4,950,000, of which \$450,000 was to be paid in cash, and \$4,500,000 in the form of a ninety-nine-year obligation, bearing interest at the rate of nine-tenths of the net earnings of the company. This obligation was to be exchangeable for stock of the company, provided the legislature should authorize additional issues of stock. When Mr. Addicks entered into this contract to build the works, he owned more than 98 per cent. of the stock of the company. The board of directors not only entered into this contract, but at the same meeting at which they voted to accept the terms of the contract they ordered the treasurer to sign, seal, and deliver this obligation for \$4,500,000. Therefore, when this obligation was delivered on March 11, 1885, the company had none of its capital stock paid in, had no assets, and owed \$4,500,000 for building its works, on which no labor had yet been expended. The terms of the contract were such as to allow the contractor to do little or much under it, as he liked. It is probable that the price agreed upon was sufficient to pay for the building of works with a capacity equal to half the total supply of Boston at that time, say four and one-quarter million feet, and to parallel all the pipes in the city. Instead of this the contract called for the completion of the plants with a maximum capacity of four million feet, and the "laying of at least 100 miles of mains," all to be ready for use not later than January 1, 1890. There were at that time, in actual use in Boston, from 300 to 350 miles of mains.

This contract, entered into about a month after the permission to lay pipes in the city was obtained, as well as the size and position of pipes laid, and the petitions of the company always pending in the legislature, indicates that

not competition, but consolidation, was the aim of the company from the outset. Some years later the attorney for the company said the company looked upon the agreement exacted from it by the board of aldermen as void from the beginning, as the company denied the right of the city to attach conditions of any sort to such a permit, and that eminent special counsel supported this view. He maintained, however, that the company meant to compete, but found the opposition of the people to tearing up the streets so great that it was forced to discontinue the laying of pipes and to consolidate the companies. He went further, and said there had always been great opposition to opening the streets, citing as evidence especially the establishment of the Gas Commission, and that paralleling of pipes was not only an annoyance to the public, but a wholly unnecessary expense,—a waste of capital. In saying this, he seemed to forget that the only plea by which the company gained an entrance into the city was that such tearing up of the streets was necessary in the public interest. If the aldermen were not convinced by this plea, there must have been good ground for the suspicion, freely expressed, that they were not convinced at all, but admitted the company for considerations not made public. Be that as it may, the above utterance shows how short is the memory of corporation officers and counsel. The Bay State Gas Company, notwithstanding the argument by which it gained admission to the city, and the agreement it signed in accepting its location, has from that day to this had so profound a respect for the opinions of those who are opposed to frequent opening of the streets, the unnecessary paralleling of pipes and duplication of plants, that it has laid, in round numbers, but fifteen and one-half miles of pipes. That the company took this view of pipe laying has probably been a gain for the Boston gas consumer as well as for the company.

Turning our attention for the moment away from this

contract, let us follow the corporate action of the Bay State Company. The records of the company show that on September 3, 1885, the capital stock of \$500,000 was paid in cash. Due return of this fact was made by the proper officers under oath to the Secretary of the Commonwealth. On the same day, September 3, 1885, the company paid the Beacon Construction Company, assignee of the contract to build the works, the sum of \$450,000 and lent it \$50,000 at 2 per cent. interest. The transactions of September 3 may have met the technical provision of law that the share capital should be paid in cash; but, on the face of it, the payment was fictitious, as an accommodation check would have served every purpose.

Although at this time the contractor had assigned the contract to the Beacon Construction Company, he had lost none of his interest in it, as he still controlled both the gas company and the Construction Company. The net result was that on the evening of September 3 the gas company had spent the money paid for its share capital, had no assets of any kind except a note for \$50,000, and besides this owed \$4,500,000. In fact, the company at this time had no office or fixed place of business, and apparently no business to be done. For nearly a year after this the company, in its corporate capacity, seems to have been in a comatose condition. The next official action we hear of is on August 18, 1886. At that meeting the directors, by separate specific votes, approved (1) the contract with J. Edward Addicks to build the works, (2) the issue of the \$4,500,000 obligation, (3) the payment of the \$450,000 in cash, and (4) the loan of the \$50,000 to the Construction Company. To make assurance doubly sure, it was voted, "that all the acts, doings, and contracts of the directors of the company during the years 1884, 1885, and 1886, be, and the same are hereby, ratified, confirmed, and approved." This was not a meeting of the stockholders, but of the directors, who were thus rati-

fying and approving their own acts. As the company had virtually no assets and was apparently waiting for the completion of the work of the Construction Company, its official action for some years does not concern us. The records of this period show no activity save in regard to pending legislation along the lines already suggested. It may be noted, however, that, notwithstanding the small amount of assets and of business to be done, the treasurer was ordered on July 15, 1887, to pay each of the two attorneys of the company \$10,000, and on September 13, 1887, the salary of the treasurer was fixed at \$6,000 per annum. Presumably, these payments were made from the proceeds of the \$50,000 note.

At a directors' meeting held March 23, 1889, it was voted to accept the work already done by the Construction Company, as the equivalent of that called for by the contract. This vote expressly noted the fact that the work done was not that provided for in the contract; but the officers of the Construction Company (being the same as the officers of the gas company) reported that what they had done had been done as the result of an understanding with the officers and stockholders of the gas company. Thereupon it was voted that the contract had been performed to the complete satisfaction of the company. It was further expressly voted that the Construction Company be allowed to retain the obligation for \$4,500,000 and the \$450,000 in cash. On the same day a stockholders' meeting, by a unanimous vote, ratified this action of the directors. It was not a very difficult thing for the directors, when they were once assembled, to get the stockholders together. All the shares of the company, except seven, had, almost from the beginning, been held by one person. The whole history of the company shows no sales of the stock.

It is extremely difficult to estimate the cash value of the work done by the Construction Company, although an enormous amount of evidence, under oath, has been taken

from almost every one connected with the enterprise, as well as from others supposed to be competent. The State of Massachusetts, for the purposes of taxation, supervision, and control, requires separate annual reports of the condition of such corporations to be made under oath to the Tax Commissioner, the Gas Commission, and the Secretary of the Commonwealth. From a careful comparison of all these returns, which are widely divergent for the same year, and from a study of a great mass of evidence on this point, taken at two investigations ordered by the legislature, probably a sufficiently accurate estimate for our present purposes would be \$700,000 for all the work done and the property turned over by the Construction Company. At the time that the contract was "completed" the company is supposed to have held real estate acquired directly from Mr. Addicks at a cost of about \$50,000, including the filling of it in. It had also acquired, apparently from the same source, patent rights, which it carried on its books at \$250,000. For purposes of the "franchise" tax, as levied on all Massachusetts corporations, the company must report to the State Tax Commissioner the amount of its local assessment, which represents the value of its real property and machinery as locally assessed. Deducting this local assessment from the estimated value of the company's shares, we have the value of the "franchise" for purposes of taxation.

A comparison of the value of the property or assets shown by these different sets of returns for several years will be interesting.

Under the head of debts and bonds, in the returns both to the Gas Commission and to the Secretary of the Commonwealth previous to the "completion" of the \$4,950,000 contract, is a reference in a foot-note to this unfulfilled contract, with the statement that "the exact amount of its indebtedness cannot, therefore, be accurately stated." It would perhaps have been more accurate, in-

>Returns to Gas Commission as of June 30 each year.	Returns to local assessors as of May 1 each year.	Returns to the Secretary of the Commonwealth.			
Year.	Value of assets.	Year.	Value of assets.	Year.	Value of assets.
1885,	no return.	1885,	no return.		
1886,	\$76,000.00*	1886,	\$76,000.00*		
1887,	876,956.00†	1887,	202,000.00		
1888,	826,000.00	1888,	202,000.00		
1889,	4,974,554.74‡	1889,	501,300.00	1889§,	\$779,451.52
1890,	4,974,564.74‡	1890,	526,300.00	1890||,	5,047,145.24

asmuch as this obligation had been issued some years before and bandied about among many companies all controlled by the same people, to say that "the value of the assets cannot therefore be accurately stated." Nothing in any of these reports previous to 1889 shows that anything had been paid on this contract for \$4,950,000. In the report to the Gas Commission in 1889, under "Bonds or notes issued," this obligation for \$4,500,000 is put down as issued March 11, 1885.

The testimony, under oath, of one of the directors of the company, who had sworn to both the returns of January 1 and of June 30, 1889 (the one to the Secretary of the Commonwealth, the other to the Gas Commission), is interesting as to what additions to the actual property of the company were made during this period, such as to increase the value of the assets nearly tenfold. The questions and answers are as follows:—

Question. "Isn't it a fact . . . that the variation in these two items actually represents substantially book-keeping, the making up of books?" *Answer.* "Well, of course it is book-keeping, as all accounts are."

Question. "And not actual additions of property between those two dates?" *Answer.* "Well, it would be

* All of it real estate.

† Including \$250,000 for patent rights.

‡ Real estate, machinery, appliances, and mains all lumped at \$4,950,000, although they had been separately listed in earlier reports.

§ As of January 1.

|| As of June 2.

folly, of course, for any one to suppose that there had been those additions to the property between those two dates."

Leaving the Bay State Company for a moment, let us go back to consider the outside activity of its promoters. Armed with the obligation for \$4,500,000 and the contract on which it was based, Mr. Addicks went to Philadelphia, and formed, March 19, 1885, under the general laws of Pennsylvania, the Beacon Construction Company, referred to above, for the sole purpose of constructing the Bay State works. Of the 15,000 shares of the capital stock, he took 14,980, assigned his contract to the newly organized company, and paid for his shares by transferring to that company the obligation for \$4,500,000. This contract, as required by law, was by special vote of the subscribers to the stock of the Construction Company appraised as worth in cash the equivalent of 14,980 shares of the stock at par, or \$1,498,000. This left but 20 shares of the stock to be paid for in cash. Mr. Addicks afterwards disposed of large portions of his holdings in this stock, retaining about 51 per cent. of the whole, to give him complete control of the company. How much he realized altogether from these sales it is impossible to determine, but certain sales can be traced. For instance, on September 12, 1887, he received in cash from the Boston Gas Syndicate, to be explained later, \$900,000 for 6,000 shares of this stock, or \$150 per share.

This obligation for \$4,500,000, which, by the way, the courts and the legislature have never been able to classify or designate more definitely than by the phrase "one certain obligation," is always called a "bond" in the assignment of it. The obligation was afterwards assigned by the Construction Company to one Herman G. Mulock, who in turn on August 12, 1887, assigned it to the Peninsular Investment Company of Delaware. This was a corporation organized by Mr. Addicks, under special charter, April 24, 1889, for the sole purpose of holding

the stock and securities of the Boston gas companies. The company, by permission granted in its charter, immediately upon its organization changed its name on August 7, 1887, to "The Bay State Gas Company of Delaware," by which name it is still known. What financial, legislative, or corporate exigencies required this double assignment of the obligation for \$4,500,000 cannot be determined by an outsider; for Mr. Mulock appears to have had no interest in it, but to have acted solely for the Bay State promoters. So far as appears, there was no investment of cash in these two transfers. On the contrary, the object of the transactions seems to have been simply to get the obligation into a position where its original holders could draw an income from it. The nominal consideration named in these two transfers was the same,—namely, \$5,000,000; but no money passed, the payment being made by means of \$3,000,000 worth of stock and \$2,000,000 of 7 per cent. non-cumulative income bonds of the Delaware company. The charter of this company might well be called an unlimited license to roam abroad, deal in and hold the stock and bonds of any other gas company. The charter named \$100,000 as the nominal capital, but authorized an increase by vote of the stockholders "to such an amount as they may from time to time deem needful." The company began by issuing \$5,000,000 on August 7, 1889. Apparently, none of this was paid for in cash; but, within a week of the vote authorizing the issue, \$3,000,000 out of the \$5,000,000 was given to the Beacon Construction Company in return for the obligation for \$4,500,000. About a year ago (in 1897) the company suddenly issued additional capital to the extent of \$45,000,000, which it is supposed to have disposed of for cash at from \$2 to \$5 a share; the par value of the shares being \$50. Why the company deemed this large increase of its capital stock "needful" will be explained in a later article.

The facts already recited, as well as the subsequent history of the Bay State companies, clearly show that the promoters of these companies had but one object from the beginning; and that object was the combination or consolidation of the gas companies in and about Boston. This is plain, although such combination was supposed to be absolutely prohibited at that time by the laws in force in Massachusetts. All the activities of the various companies referred to so far were simply preliminary to consolidation. In the light of this fact, it goes almost without saying that, notwithstanding the argument by which the Bay State Company gained entrance into Boston, and the agreement it signed to parallel all the pipes in the city, it had no desire or intention of duplicating any of the systems of pipes, except as such paralleling might be necessary to keep up appearances until the main purpose could be attained. Almost from the organization of the Bay State Company of Boston, and especially after the issue of the obligation for \$4,500,000, the public began to have vague fears that combination, and not competition, would be the result of admitting the Bay State Company, unless more stringent legislation were enacted. The other gas companies were constantly in fear of being swallowed.

The Bay State had already acquired the charter rights of the Consumers' Company, which had never made any use of its franchises. The Gas Commission, in its first report (January, 1886), called attention to the obligation for \$4,500,000, questioned the legality of the contract on which it was based, and declared the transactions of the Bay State Company in this connection to be a clear evasion of the restraints supposed to be imposed on gas companies by the statute fixing the maximum capital stock of each one at \$500,000. Reference was also made in this report to the fact that the legislature in its session of 1885 had refused, after full consideration, to grant this particular company an increase of capital stock. The

commission also made some unfavorable comments on the condition of gas-works leased to or owned by absentees. These expressions seemed to be an echo of the discussion on this point which took place at the time the Bay State Company got its locations in Boston. To justify its fears in this connection, the Commission called the attention of the legislature to a prospectus of the Bay State Gas Company of Pennsylvania, Limited, "whose sole function shall be to hold in its treasury the securities of the Bay State Gas Company of Boston." The prospectus also stated that, notwithstanding the limitation upon capital, this obligation for \$4,500,000 had been issued, and that this obligation and all the stock of the Bay State Company of Boston, "excepting a small number of shares necessary to keep up the organization," would be held in trust by a Philadelphia trust company for the benefit of the Bay State Gas Company of Pennsylvania. In view of all these facts the commission recommended additional legislation. The result was an act of June 30, 1886, which largely increased the powers of the commission over the books, accounts, and reports of the companies, and forbade any company to issue bonds in excess of its paid up capital stock. It forbade also the issue of any bonds below par or at a rate of interest greater than 6 per cent. The act further required that the proceeds of all bond issues should be used to extend the plant, to pay debts incurred for this purpose only, or to pay debts of any other kind contracted before the passage of this act. Section 4 of this act, aimed more specifically at the Bay State Company, reads as follows:—

No gas company shall transfer its franchises, lease its works, or contract with any person, association, or corporation to carry on its works without the authority of the legislature.

The passing of this act may look like locking the stable door after the horse has been stolen; but it should be

remembered that this was comparatively early in the history of the Bay State Company, and all of its doings were covered up as much as possible. The Gas Commission had just been appointed, and its members were all unfamiliar with gas-works, gas manufacturing, gas company financing, and gas accounts. In fact, they were not only new to every phase of the situation and business, but they were also entering on an entirely untried field of public activity, without precedents elsewhere to guide them. Under these circumstances, they could not be expected to give either the time or the skill required to investigate all the subsidiary and auxiliary enterprises of the Bay State promoters. At this time, also, the obligation for \$4,500,000, inasmuch as virtually no work had yet been done on the contract on which it rested, seemed of decidedly doubtful legal effect. In fact, when the legislature was compelled some years later to act on it, the view apparently taken was that the obligation was not legally issued until the works were completed. The summary destruction of this obligation by legislative fiat probably prevented a judicial determination of this point. If, however, this view were correct, the act of 1886 would have been a legal bar to the issue of the obligation upon the acceptance of the works. But the company had its own opinions on this subject, and, as already stated, accepted the works, and voted that the Construction Company retain the obligation. The interests opposed to the Bay State Company called this a "reissuing" the obligation after the act of 1886.

The Bay State Company of Pennsylvania, referred to above, failed of organization; and consequently the use of the trust company at Philadelphia was given up. However, the Bay State interests organized on February 16, 1889, under the general laws of New Jersey, the Bay State Gas Company of that State. Through this company and the Mercantile Trust Company of New York, they accom-

plished the identical purposes which they failed to carry out under the laws of Pennsylvania by means of the two companies named above.

If some sort of combination was the chief object of the Bay State Company, all these outside companies alone could not accomplish it. The stock of some of the other companies had to be brought under control, and funds had to be raised for that purpose. It is impossible to find out how much money was raised from the stock and securities of the Construction Company. It is not impossible that enough was secured from this source to repay to the promoters the capital stock of the Bay State Company of Massachusetts and to build its works. It seemed imperative now, if the whole scheme were not to fail, that the Bay State Company should gain control of some of the other companies before their great manufacturing plants should be completed, as they were not preparing to distribute gas to private consumers through their own system of pipes.

As a direct means of purchasing a controlling interest in the other companies, the Bay State party organized June 1, 1887, a voluntary association or trust, known as the Boston Gas Syndicate. The object of this was to raise or guarantee funds, and actually purchase a controlling interest in the stock of the other companies in and about Boston. The articles of association named five trustees, who were to receive the subscriptions to the trust funds. They were by the agreement given the widest discretion as to time, place, and manner of carrying out the objects of the trust, which in turn were defined in the vaguest language. The articles of association, however, contained the following statement: "the principal object of this agreement being hereby declared to be to lease or consolidate with said Bay State Gas Company of Massachusetts all the companies herein named or referred to." The companies included in this designation

were all the companies authorized to do business in Boston or "in the towns and cities adjacent thereto" and the Bay State Gas Company of New York.* A further definite object of the trust was the purchase for \$900,000 in cash of the six thousand shares of the stock of the Beacon Construction Company already referred to. In regard to all other purchases the trustees were given the greatest liberty as to price, time, place, manner, and method. They were expressly authorized to pay dividends, commissions, interest, and bonuses, to borrow money, and to mortgage any property held by them for its payment. The agreement gave them discretion to distribute any stocks, bonds, or other property purchased by them pro rata among the subscribers to the syndicate, except the six thousand shares of the Beacon Construction Company's stock, which was to be held by these trustees and their assigns in trust forever. The subscription fund was to be limited to \$2,900,000, payable in cash, at the call of the trustees. This list shows that subscriptions were actually made, by one hundred and thirty-eight persons in all, to the sum total of \$2,430,600. Of this total the five trustees, together with the immediate members of their families and the United Gas Improvement Company of Philadelphia in which they were interested, subscribed \$1,953,000, or 80 per cent. of the whole. While these subscriptions were nominally paid in cash, a careful comparison of the dates and cash payments with certain other transactions carried on at the same time, leads to the conclusion that to a large extent these cash payments were fictitious, and that it was unnecessary to provide considerable sums of money until such time as it could be raised on the stocks pur-

* This company, as Mr. Addicks afterwards said on oath, was only a skeleton company, which failed of organization "because there was a doubt as to the powers they would have under the New York laws at that time with regard to holding the stock and bonds of foreign and other corporations." The place of this New York company was afterwards taken by the Bay State Gas Company of New Jersey. The New Jersey and Delaware laws proved to facilitate such schemes more than did those of Pennsylvania and New York.

chased by the syndicate. The process seems to have been somewhat as follows: The trustees of the syndicate entered into agreements to buy the stocks of the Boston gas companies, and also agreements to sell the same stock to the Bay State Gas Company of New Jersey. This company in turn agreed to deposit these stocks in trust with the Mercantile Trust Company of New York, and to issue on such deposit, through the Trust Company, Boston United Gas 5 per cent. fifty-year gold bonds to the extent of \$12,000,000. Of this total issue \$9,000,000 were to be first series, and \$3,000,000 second series, or junior securities. It should be noted, as showing the relation of one of these enterprises to another, that Mr. Addicks always controlled the New Jersey company, which was organized expressly to issue these bonds, and (to use his own language) "because eminent counsel doubted the right of either of the Massachusetts companies to do so." It should be further noted that these bonds are of even date with the income bonds of the Delaware company given in exchange for the \$4,500,000 obligation. These Boston United Gas bonds were delivered to the syndicate, and from their sale by the syndicate a large part of the money was procured to pay for the stocks bought. These bonds seem also to have been delivered pro rata in large quantities to the subscribers to the syndicate, who could thus, if need be, raise the money to pay their subscriptions to the syndicate. Of course, the syndicate had meantime to use its credit, and pledge its holdings to carry through so large and complex a transaction. One of the trustees said under oath, some years later, that the trustees had to subscribe personally for a million dollars of the United Gas bonds to keep the whole scheme from failing. The syndicate paid about \$6,150,000 for the shares of the Boston Gas Light Company alone. This sum had to be raised over and above the amounts originally subscribed to the syndicate, as the stocks of the other companies purchased cost just about as

much as the subscriptions amounted to. The extent of the credit transactions is shown also by the cash book of the syndicate. From this it appears that the total cash subscriptions practically equalled the value at par of the whole issue of \$3,000,000 second series United Gas bonds, and that the payment of the subscriptions and the delivery of these bonds to the subscribers took place substantially at the same time. In fact, a slight excess of subscriptions over this issue of bonds was made up by the promissory notes of the company issuing the bonds; and these, too, were distributed pro rata among the subscribers.

Assuming that all subscriptions to the syndicate were paid in cash, let us see what the subscribers got in the way of securities* for their cash investment. The records show that, when the stocks purchased were placed in trust, for every cash subscription of \$1,000 the subscriber received \$1,000 in the second series United Gas bonds, \$100 in the income bonds of the Bay State Company of Delaware, and \$600 in stock of the Bay State Company of Delaware. That is, he got securities whose face value was 170 per cent. of the amount subscribed.

The conditions under which the Boston United Gas bonds were to be issued were not all fulfilled on the part of the syndicate for a number of years, as will be explained later. As a result, but \$7,000,000 of the first series and all of the second series were issued at the beginning. It seems that, with the exception of the \$1,000,000 of firsts already referred to as having been taken by trustees of the syndicate, all this series was sold to the outside world to get the money to pay for the stock of the Boston Gas Light Company.

The agreement dated January 1, 1889, by which these stocks were put in trust, is a tripartite one, to which the

* The operations of the syndicate nominally extended over about four years, but the transactions now under consideration occupied about two years. For the use of the funds during this time the subscribers received cash dividends on their subscriptions to the extent of 9½ per cent.

three parties are (1) Messrs. J. Edward Addicks and W. E. L. Dillaway,* who style themselves the "owners" of the stocks in question, (2) the Bay State Gas Company † of New Jersey, and (3) the Mercantile Trust Company of New York.

A careful analysis of the terms of these trust deeds will be necessary as a basis for a discussion of the history (postponed for a future article) of the companies "captive" under the trust. For the present let us consider the extent and character of the stocks deposited and the securities representing them. The following table will be of use in showing these facts at the date of the issue of the \$7,000,000 first series and \$3,000,000 second series Boston United Gas bonds:—

<i>Name of Company.</i>	<i>Total No. shares.</i>	<i>No. shares trusted.</i>	<i>Par value of shares trusted.</i>	<i>Amount paid for shares trusted.</i>
Boston Company . . .	5,000	4,984	\$2,492,000	\$6,129,320
Roxbury Company . . .	6,000	5,993	599,300	1,248,425
South Boston Company	4,400	3,984	396,400	544,600
Bay State Company . .	5,000	4,993	499,300	499,300
			150,000†	
Total	—	—	\$3,987,000	\$8,571,645

Thus the stocks put in trust cost, on the average, 215 per cent. of their par value. This could scarcely be called a bad bargain for those who sold the stocks. Can the

* Mr. Dillaway was from the beginning one of the promoters and the chief counsel of the Bay State companies.

† It is a strange commentary on the way in which American business corporations are allowed to run riot that this company was organized solely because of some unforeseen delay in organizing the Bay State Gas Company of Delaware, and that it is made a party to these trust deeds dated January 1, 1889, while its own certificate of incorporation bears date of February 16, 1889. That is, it was a party to this contract about seven weeks before it had legal existence. It is true the contract was not executed until March 20, 1889. It is understood that, pending the organization of the New Jersey company, the Beacon Construction Company acted for it. As soon as these trust deeds were executed and the bonds issued, the company, by contract, assigned all of its interests to the Delaware company.

† This item of \$150,000 was paid by the syndicate to the directors of the Boston company as a bonus, in addition to the \$6,129,320 paid for the stock of that company.

same be said from the point of view of the promoters of the Bay State Company? To answer this question, let us recapitulate summarily the doings of the promoters of the Bay State Gas Company from the beginning of that enterprise until the summer of 1889, when the Boston United Gas bonds were issued and delivered to the Boston Gas Syndicate. First, they had increased the property of the gas plants in Boston, by actual building and apart from the water gas patents, to the extent of probably \$750,000. How much money was contributed by these persons from their own resources for this purpose it is impossible to say. Something may have been raised from outsiders on the Beacon Construction Company securities. To establish these manufacturing plants, the Bay State Gas Company of Massachusetts had been formed, with paid up capital of \$500,000, and had then been "bonded" for \$4,500,000. The promoters had worked through the Beacon Construction Company of Philadelphia, with a nominal capital of \$1,500,000, through the Bay State Gas Company of New Jersey, with a nominal capital of \$1,000,000, and through the Boston Gas Syndicate, a voluntary association which handled about \$10,000,000, buying stocks of the Boston gas companies with a par value of \$3,987,000 for \$8,571,645. These stocks they had put in trust with the Mercantile Trust Company of New York, to pay the principal and interest of \$10,000,000 Boston United Gas Trust bonds, issued through the New Jersey company. This company, after issuing the bonds, had been literally absorbed by the Bay State Gas Company of Delaware, organized for this express purpose. Of course, the Delaware company had to assume all the obligations of the New Jersey company. The Delaware company had at this time issued \$5,000,000 of stock, and income bonds to the extent of \$2,000,000. This list does not include the two skeleton companies which perished in embryo; namely, the Bay State Gas Company of Pennsylvania and

the Bay State Gas Company of New York. The same individuals had absolutely controlled all of these enterprises from the beginning. The company, in the face of great opposition, had brought the legislature of Massachusetts to permit the sale of water gas, which it alone was prepared to manufacture. But, if water gas could be manufactured cheaper than coal gas, the Bay State Company, having gained control of the three other companies, could now sell water gas through their systems of distribution. The Bay State of Delaware had absorbed the Bay State of New Jersey and the Beacon Construction Company, chiefly by exchanging its stock for theirs. It had purchased the obligation for \$4,500,000 in the same manner by an issue of stock and bonds. We may therefore disregard in future the two companies last named. Remembering, then, that before the advent of the Bay State Company to Boston the companies paid about 10 per cent. on their share capital, the question arises whether, with an additional investment of, say, three-quarters of a million dollars (excluding patent rights), these same companies could pay dividends on the small number of shares of these four companies still remaining outside the trust, and have enough left to pay interest on the \$10,000,000 Boston United Gas Trust bonds, interest on the \$2,000,000 of income bonds of the Delaware company, and dividends on the \$5,000,000 of share capital of that company, and at the same time maintain sufficiently large sinking funds to pay the principal of the bonds at maturity. It will be observed that the obligation for \$4,500,000 does not affect the problem, since the amount going from the treasury of the Bay State of Massachusetts to pay interest on this furnishes the chief source from which dividends and interest on the securities of the Bay State of Delaware must come. In other words, the promoters of the Bay State Gas Company of Massachusetts formed this multitude of corporations, limited partner-

ships, trusts, syndicates, and contracts with themselves, in five States, to the legislatures (and in some cases to the city councils) of which they have had to make numerous and expensive appeals, all in the attempt to make the property which before paid 10 per cent. on less than \$5,000,000 of capitalization, by the addition of about \$1,000,000 to the investment (including patent rights), pay interest and dividends on \$17,000,000 capitalization. At first blush it would seem that to expect success in this would require a huge faith in water gas processes and extraordinary skill in management, or some magnificent manipulation of resources such as even the Bay State promoters could not confidently anticipate. Yet the selling prices of these securities from the beginning indicated that the holders expected an income on them.

The history of the attempts to pay dividends and interest on this inflated capitalization will be followed in a future article.

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THE SETTLEMENT IN THE COAL-MINING INDUSTRY.*

THE convention of coal miners and operators which met in Chicago on January 17, 1898, and was in daily session until January 26 inclusive, was the direct outgrowth of the coal miners' strike of 1897. The object of the convention was to establish relations between the miners and operators of Western Pennsylvania, Ohio, Indiana, Illinois, and West Virginia; to formulate a scale of prices for mining, with proper differentials, in those States for the ensuing year; to establish, if possible, a permanent interstate agreement on the mining question; and to consider "such other matters as might properly come before such a convention."†

When the coal miners' strike of 1897 ended in September of that year, many things were left but half settled. In Western Pennsylvania, Ohio, and Indiana the prices for mining agreed upon were to continue only until January 1, 1898. In Northern Illinois, where the strike continued more than two months longer than in the other States, contracts had been signed and prices agreed upon which were to hold good until May 1, 1898;‡ when prices were again to be agreed upon and new contracts signed for another year.

But aside from questions of prices for mining, it was generally felt, both by operators and miners, that in order to avoid disturbances in the future, there must be agreement on uniform conditions for mining throughout the different competing districts. From 1886 to the strike of 1894 there had been an interstate agreement among the miners and operators

* For an account of the events leading up to the settlement here described see the article by the present writer on *The Coal Miners' Strike of 1897* in this Journal for January, 1898.

† See the *Report of the Official Proceedings of the Chicago Joint Convention*, p. 8. The convention represented the bituminous coal districts only (including the block coal region in Indiana), and had nothing to do with the anthracite coal mines of Pennsylvania.

‡ See the *Official Proceedings of the Joint Convention*, p. 8. West Virginia is not mentioned in this connection for the reason that the strike in that State was very limited.

of these districts, and comparatively uniform conditions had been maintained, to the great advantage of all concerned.* But when the interstate agreement lapsed, the uniform conditions ceased also; and operators in many places resorted to various devices for gaining an advantage over competitors. False weights were used. Large wagons, or pit-cars, were frequently put in, containing more coal than served as the basis of payment to the miners; and, in many instances, a widening of the spaces in the screens was resorted to, allowing an extra amount of coal to pass through for which the miner received nothing. So flagrant had these abuses become that in Illinois, Ohio, and Pennsylvania the miners sought redress through legislation which should require payment by run of mine or gross weight. Such a law was passed in Illinois in June, 1897;† and, later, similar laws were passed in Ohio and Pennsylvania.‡

During the strike of the summer of 1897 an attempt was made to remedy these evils in the Pittsburg district. The movement was headed by Mr. W. P. DeArmitt of the New York and Cleveland Gas Coal Company, and a so-called "Uniformity Commission" was formed. It was at first distinctly a move by Mr. DeArmitt and a few other operators of the district, and was not a joint movement on the part of operators and miners.§ Before the uniformity plan should become effective, 95 per cent. of the operators of the district were to sign, on or before January 1, 1898, an agreement to observe uniform conditions. Failing to secure the signature of 95 per cent. of the operators, those who had signed agreed to go ahead with their plans, provided now that the co-operation of the officials of the United Mine Workers of the district could be secured. Subsequent events showed that there was some misunderstanding as to the kind of co-operation

* See the account of this interstate agreement in the January article, pp. 196-199.

† See the *Sixteenth Annual Report of the Illinois State Bureau of Labor Statistics: Coal in Illinois*, 1897, p. 166. A similar statute, passed in Illinois in 1891, had been held unconstitutional by the State Supreme Court. See *Labor Laws of the United States*, second edition, p. 1271.

‡ In Ohio early in March, 1898; in Pennsylvania in the last session of the legislature (1897). See *United Mine Workers' Journal*, March 10, 1898, p. 4.

§ Compare the article in the January number of this Journal, pp. 204, 205.

desired. It was generally understood that the miners were to force into the agreement, by means of strikes, those operators who had refused to sign, or to compel them to pay their miners 10 cents per ton more than was paid by the signers of the agreement. To make such strikes successful, funds for the aid of strikers would have to be raised by the miners still working. Moreover, the co-operation of such operators as had signed the agreement would be necessary, both by collecting the levies from their pay-rolls and by keeping away from their mines detectives sent thither by recalcitrant operators for the purpose of fomenting dissensions among the working miners and persuading them not to contribute. This co-operation might have been secured, although the destitution among the miners after the strike of 1897 must have caused some unwillingness on their part to contribute. In short, the scheme proposed meant the co-operation of all the operators who favored the uniformity plan, and of all the union miners of the district against such operators as would not sign the agreement and against any non-union miners who would not submit to the levy. Mr. DeArmitt, however, refused to consider co-operation of this kind, insisting that it would be an infraction of the law as to conspiracy.* The result was that the work of the Uniformity Commission came to an end the latter part of February, with nothing accomplished for the betterment of the situation.†

On the other hand, throughout the strike of 1897 it was the constant endeavor of the United Mine Workers to revive the old interstate agreement, which from 1886 to 1894 had pre-

* From a letter to the present writer from an official of the United Mine Workers in the Pittsburg district, dated February 25, 1898.

† See the annual address of President Dolan of the United Mine Workers in the Pittsburg district in the *United Mine Workers' Journal*, March 17, 1898, p. 3.

The effect of the failure upon the miners of the New York and Cleveland Gas Coal Company this time is worse than was that of a similar failure in 1895 (see the article of January last, p. 204, foot-note). The company has again forced its men to sign an iron-clad contract for a year, which prohibits their belonging to unions. The price paid per ton for mining is eleven cents less than elsewhere in the district. Inch and a half screens are still being used, and the old ten-hour day still prevails. A reliable informant, in a letter to the present writer, of date April 26, 1898, says: "At 55 cents per ton [the price at present paid for mining], and with inch and a half screens still in use, the miners of the Gas Coal Company are at a disadvantage of at least 18 cents per ton as compared with other miners in the Pittsburg district."

vented great strikes, like that of 1897. As all the districts have practically the same market, it was obvious that uniform conditions of mining, if applicable to certain districts only, would avail nothing. And when the strike ended, a large number of operators also felt that, in order to put the industry on an equitable basis and raise the plane of competition to a higher level, a return to the interstate agreement was necessary.

The preliminary steps in this direction were taken at a joint meeting of miners and operators of the Pittsburg district, held in Pittsburg on December 20, 1897. At this meeting it was agreed to invite miners and operators from the other States to meet in Columbus, Ohio, December 27, for the purpose of arranging for a joint interstate convention; and Mr. M. D. Ratchford, President of the United Mine Workers, was instructed to issue the formal call.*

In response to the call so sent out, representative miners from Pennsylvania, Ohio, Indiana, Illinois, and West Virginia, and operators from all these States except West Virginia, met for conference in Columbus at the appointed time. There were present at the conference twenty-nine operators and twelve representatives of the miners,—the latter being represented by their National Executive Board and district presidents. At this preliminary conference it was agreed that a general joint convention of miners and operators from these States should meet in Chicago on January 17 for the purposes already stated. It was also agreed, in view of the prospective expiration on January 1 of the existing mining rates in Pennsylvania, Ohio, and Indiana, that such rates should continue until January 15; and any new rates agreed upon at the Chicago joint convention should go into effect January 16.† Inasmuch also, as complete arrangements had already been made to hold the annual national convention of the United Mine Workers at Columbus during the week preceding the date set for the Chicago convention, the operators generously announced that they would bear the additional

* See *United Mine Workers' Journal*, December 20, 1898, p. 6; also the *Official Proceedings of the Interstate Convention*, p. 7.

† It will be seen, however, that the new prices agreed upon did not go into effect until April 1.

expense to the miners' delegates (about two hundred in number) of travelling from Columbus to Chicago, since the same men were to attend both conventions.

The miners' national convention, coming thus immediately before the Chicago joint convention, was of unusual interest and importance. It was in daily session from January 11 to 15 inclusive. There were two hundred and fifty delegates in attendance, representing the five States already mentioned.* In addition to the fact that it came immediately before the Chicago joint convention, another cause for enthusiasm and strength was the greatly increased membership of the United Mine Workers. The strike of 1897 and its successful results had given great impetus to organization; and in four months the membership had increased from ten thousand to over thirty thousand.†

The bearing of this convention on the joint convention at Chicago is significant. President Ratchford in his annual address advised the miners to demand an advance in the prices for mining, because of improved conditions of the coal trade, "resulting partly from natural causes and partly from the strike of last summer, which left the market in a fairly healthy condition." "You cannot make any great advances," he said; "but you should make, and, in my judgment, you can make, a reasonable and substantial advance without the necessity of a strike, if affairs are properly conducted." In the same address he urged the miners to demand also the eight-hour day, and to make that demand second only to the demand for an increase in the price for mining. These proposed demands, together with others for uniform conditions and for gross weight, were indorsed by the convention.‡

* See the *United Mine Workers' Journal*, January 20, 1898, p. 4.

† See annual report of National Secretary Pearce in supplement to *United Mine Workers' Journal*, January 13, 1898, p. 2. President Ratchford pronounced this "the largest and most harmonious convention ever held by our craft." *Ibid.*, January 20, 1898, p. 8.

‡ Besides what has already been mentioned, one other matter of importance and general interest was brought before the convention. It was proposed to raise a "Defence Fund" of at least \$30,000, to be used in time of strikes. This fund was to be raised by a monthly assessment of 25 cents, and the fund was not to be touched until it had reached the amount of \$30,000. This proposition received the unanimous indorsement of the convention; but, when later it was re-

With these well-defined demands in view, some two hundred delegates left Columbus Sunday morning, January 16, to attend the joint convention, which met at Chicago on Monday, January 17.

There were present at the joint convention altogether five hundred and twenty-eight delegates. Two hundred and seventy-eight miners represented the five competing States of Pennsylvania, Ohio, Indiana, Illinois, and West Virginia, and two hundred and fifty operators represented the first four States, the West Virginia operators still failing to send delegates.*

The first work of the convention was a discussion of the prices and differentials to be paid for mining, and the basis on which such prices and differentials should be arranged. Should run of mine, or gross weight, form the basis, or should the old system of paying for screened coal be continued? And if the screen method was to be continued, what should be the size of the screens? In Illinois the act of June, 1897, requiring pay for gross weight, had already been generally complied with by the operators. In many places they had incurred expense in constructing new apparatus necessary to meet the requirements of the law. The new system, at first objected to by the operators, had been found to work satisfactorily in the few months it had been tried, and both miners and operators were now willing to continue on that basis.

In the other States the situation was different. In Indiana, gross weight was optional by agreement between miners and operators. The law in Ohio which now requires pay for gross weight had not then been passed. The gross weight law in Pennsylvania had not then long been in existence. While

ferred to the local unions for a referendum vote, it was lost by 10,903 votes against 7,622,—little more than half the accredited membership of 30,000 voting. See *United Mine Workers' Journal*, January 13, p. 2, and March 10, 1898, p. 1.

* *Official Proceedings*, p. 10. There were for a time some objections to the West Virginia miners' delegates having a vote in the convention, because the operators from that State had not sent delegates. At first they were given a seat without a vote. Later, however, they were given the right to vote. When the scale committee was appointed to arrange prices and differentials for the various fields, these delegates were represented by the regular number allowed each State. The scale committee was composed of an equal number of miners and operators from each State excepting the operators from West Virginia.

many of the Pennsylvania operators had prepared to comply with the new requirements of their State, others had opposed it (the question of its constitutionality is now before the courts). It was maintained, moreover, by some of the Pennsylvania operators that the gross weight law offered inducement to the miners to blast the coal "off the solid," thereby shattering it and rendering it less salable.*

Owing to these conflicting conditions, it appeared impossible to agree on the gross weight basis for prices and differentials which the miners wanted. The miners from all five States and the Illinois operators were solidly for it: the other operators, with the exception of some in Indiana, were solidly against it.† The result was a compromise. It was agreed that in Indiana, Ohio, and Pennsylvania the price paid should be for screened coal as a basis, but that the option of paying for either screened coal or for gross weight should be given the operators of all the States except Illinois.‡ The difference in the price to be paid for gross weight and screened coal was to be determined by the actual percentage of coal passing through the screens. The standard screen was to have seventy-two superficial square feet, with one and a quarter inch spaces between the bars; and the standard unit of weight was to be two thousand pounds to the ton.

We turn now to the questions as to prices and differentials. In Illinois the operators had met some time before the convention, and had readjusted prices and differentials throughout the State. These rates had been generally agreed to by all the operators except those in the Fourth District, or what is called the Grape Creek district, in the central part of the State. In Illinois, therefore, the situation, with this one exception, was satisfactory; and the miners appear to have had few demands to make. At the close of the strike of 1897 they had obtained the same average advance of 10 cents per ton which had been secured in the other States. But, in addition, they were paid these advanced prices for gross weight, equivalent to an advance of at least 10 cents more.

* See the *Official Proceedings*, p. 15.

† *Ibid.*, p. 21.

‡ Of course, this was not binding on the West Virginia operators, who were not present. Attempts on the part of the miners in that State later to bring about improved conditions have not been very successful.

In Western Pennsylvania, Ohio, and Indiana, however, the situation was different. In order to put these States on an equal footing with Illinois, an advance of 10 cents per ton was necessary. Moreover, the miners maintained that they were justified in this because of the improved condition of the market. Accordingly, President Ratchford, for the miners, offered the following resolution: "That an advance of 10 cents per ton for mining screened coal take place in Western Pennsylvania and in the Hocking Valley and Indiana bituminous districts on April 1, 1898, with proportionate prices for run of mine." Together with this resolution, he renewed a resolution previously introduced by the operators,—that "on and after April 1, 1898, the eight-hour day shall go into effect in all the districts represented, and that uniform wages for the different classes of day labor be paid in the fields named."* These resolutions received the unanimous vote of the miners, and of all except the Ohio operators, who voted two for and two against.† The Ohio operators who voted against the resolutions did so, they maintained, because they could not afford to pay more than "60 or 61 cents per ton with West Virginia competing successfully already in all the markets for Ohio coal, and independent of the influence of organized labor." Notwithstanding also that the Pennsylvania operators had given a full vote for President Ratchford's resolution, a considerable number maintained that the differential between the price paid by them and that paid by the Ohio operators was unfair. For years a differential of 9 cents in favor of the Ohio operators had been maintained, owing to the larger spaces in the screens used in Pennsylvania. The miners replied that, if the Pennsylvania operators

* *Official Proceedings*, p. 22. It is but just to state that a resolution in favor of the eight-hour day had been submitted by Mr. F. L. Robbins, operator from Western Pennsylvania, and unanimously adopted by the convention two days before this. Further, on the same day, Mr. H. L. Chapman, an operator from Ohio, had submitted a resolution that the miners of the competitive districts be given an advance of 10 cents per ton, "and that the same relative conditions that now exist be continued in all the competitive fields." The last clause, relating to conditions, caused a heated discussion on the question of run of mine, so that the eight-hour day resolution seems to have been lost sight of until brought up again by Mr. Ratchford.

† On all questions each State was allowed the same number of votes, the operators four, and the miners four.

would give them the same conditions as the Ohio operators gave their miners, they would accept Ohio prices. This was agreed to by the Pennsylvania operators, and one and a quarter inch screens were substituted for one and a half inch screens.* To this agreement, again, the Ohio operators objected, maintaining that, with the differential removed, Pennsylvania would come into unjust competition with them. Nevertheless, the convention stood by the resolution for the general advance of 10 cents per ton. It was feared that in order to obtain the advance in Ohio (Hocking Valley), a strike would be necessary; but this was avoided because the operators acceded to the demands before April 1, when the new prices went into effect.† The advance in price to the Pennsylvania miners was only 1 cent; namely, from 65 to 66 cents per ton. But the change in the screens was equivalent to an additional gain of 9 cents per ton, so that they really secured the same advance as the Ohio and Indiana miners.‡

As to the uniform pay for day labor which President Ratchford's resolution called for, it was found difficult to arrange any suitable scale at the convention. It was therefore agreed that the matter should be referred to a committee of two miners and two operators from each State, who should meet in Columbus, Ohio, March 8. This committee met at the appointed time, and arranged a scale of wages for inside (underground) day labor, to be calculated as follows: First, an average rate of pay was found for each class of day labor in the different States, based on the old ten-hour day; then these general averages were reduced one-fifth, to meet the requirements of the new eight-hour day; and to the result thus obtained for each class of day labor was added an advance proportionate to that gained by the miners.§ That is, a scale

* From a letter to the present writer from an official of the United Mine Workers in the Pittsburg district, dated March 16, 1898.

† See *United Mine Workers' Journal* for March 24, *passim*, and March 31, 1898.

‡ The same relative prices and conditions between machine and pick mining that had existed in the different States were continued; that is, from three-fifths to four-fifths of the price paid for pick mining was to be paid for machine mining. See *Official Proceedings*, pp. 27, 28.

§ The scale agreed upon was as follows: track-layers, \$1.90; track-layers' helpers, \$1.75; trappers, 75 cents; bottom-cagers, \$1.75; drivers, \$1.75; trip-

was agreed upon which meant eight hours' pay for eight hours' work, with the same percentage of advance over the old prices as the miners had obtained. It was found impossible to agree upon a uniform rate of wages for outside day labor, owing to the inevitable variations in the conditions under which such labor is employed. Such wages were to be settled by unfettered agreement in each case.

Such, then, in broad outline, were the prices and differentials agreed upon. The new gains to the miners of Pennsylvania, Ohio, and Indiana, were as great as those gained at the close of the strike of 1897; and in Illinois, also, substantial gains were made. It was found impossible to settle in the convention all minor differences as to prices and conditions arising in the various localities, such as must necessarily arise when great changes are made. These differences were to be referred for settlement to the miners and operators interested, with the understanding that the prices and conditions agreed upon at the joint convention should form the basis and guide for all such negotiations.

To enforce the Chicago agreements, several small strikes proved necessary; and several are still going on. But, with unimportant exceptions, the new prices and conditions have gone into effect, and both miners and operators are faithfully observing the agreements made.* An official of the United Mine Workers says: "Miners and operators are generally living up to the interstate agreement. The little trouble occurring is due only, as is usual in such cases, to the changes made in conditions and to misunderstanding concerning certain provisions of the agreement."† It is worthy of particular mention that the eight-hour day, which the miners for years had worked for, was at last gained, not through a long and bitter struggle, but through the cordial agreement of employers and workmen. The time was opportune for it. Coal mines

riders, \$1.75; water-haulers, \$1.75; timbermen, where such are employed, \$1.90; pipemen, for compressed air plants, \$1.85; company men in long-wall mines of third-vein district, Northern Illinois, \$1.75; all other inside day labor, \$1.75. See *Black Diamond*, March 19, 1898.

* See file of *United Mine Workers' Journal* for March and April, 1898.

† From a letter to the present writer dated April 26, 1898; confirmed by a later letter, of May 24, from President Ratchford.

nowhere were running to their full capacity. While the strike of 1897 had to some extent cleared the markets, the over-supply of coal was again making itself felt. A prominent operator in Northern Illinois writes that "there is hardly a mine in the country that cannot hoist all the coal it can find a market for in eight hours daily."* The establishment of the eight-hour day in the mining industry the miners regard as their greatest gain. Their journal, the *United Mine Workers' Journal*, said,† "10 cents a ton is a great advance in wages, and one which will be highly appreciated by the miners; but the greatest achievement of the joint convention, and that which will give it historical significance, is the fact that it was agreed to by both operators and miners that eight hours should constitute a day's work." The advent of the shorter day on April 1 was duly celebrated throughout the mining districts with appropriate demonstrations and public speeches.

That the agreements arrived at in the joint convention might be as far-reaching as possible, it was unanimously voted that the miners' national officials begin a campaign of organization in all States where the miners were poorly organized, such as West Virginia, Kentucky, Alabama, and Iowa. "To this the operators pledged their hearty support."‡ All the formal agreements as to prices, conditions under which mining was to be carried on, hours of labor, and the time and place of meeting of the next joint convention were embodied in a contract, which was properly signed by representative operators

* From a letter to the present writer dated March 2, 1898. What the effect of the eight-hour day on the output of coal will be it is difficult at present to say. The following interesting statement is made by the same operator in a letter of May 19: "Regarding the eight-hour day I will say that, beginning with April 1 [when the shorter day went into effect] until the beginning of this month, the output was cut down considerably, as the men were not used to performing their work and getting the coal ready in eight hours. They had been used to consuming the entire ten hours in getting the coal ready. The output was cut down something like 30 per cent during the month of April, even where the mines had a chance to run full time. The month of May shows a marked improvement in the tonnage at the same mines. The men are adjusting themselves to the eight-hour day, and, though not getting out as much coal as in ten hours, have increased their output considerably, owing to the fact that they have learned how to get their coal ready in shorter time than before."

† February 3, 1898.

‡ See the *Black Diamond* (the journal of the operators), January 29, 1898.

and miners from each State represented,* and which was to hold for one year, beginning April 1, 1898. It was agreed that the next joint convention should be held on the third Tuesday in January, 1899, in the city of Pittsburg. One of the stipulations of the contract was, "That the United Mine Workers' organization, a party to this contract, do hereby further agree to afford all possible protection to the trade, and to the other parties hereto, against unfair competition resulting from a failure to maintain scale rates." To avoid strikes, a system of arbitration was to be arranged. District "boards of conciliation" were to be provided for each field for the settlement of local grievances. State boards were to dispose of matters affecting two or more districts within the State, and an interstate board was to adjust differences that might arise between the miners and operators of different States.†

It will be seen that the agreements reached by the miners and operators form an excellent example of "collective bargaining." Other notable examples in this country are the collective bargains made in the same way by the Amalgamated Association of Iron and Steel Workers, the Iron Moulders Union of North America, and the American Flint Glass Workers' Union, with their employers.‡ In England the Durham and Northumberland coal miners have for many years carried on collective bargaining with their employers with great success. There is also a significant parallel between the methods used in England and the United States, in the settlement first of general prices for the whole industry and the application thereafter of the new prices, with proper differentials, to localities with varying conditions. In England the "Board of Conciliation," composed of operators and

* Except the Ohio operators, who were still unwilling, at the close of the convention, that the differential of 9 cents between Ohio and Pennsylvania be abolished. The contract was signed for the miners by the National Executive Board and district presidents of the United Mine Workers.—*Official Proceedings*, p. 28.

† *Black Diamond*, January 29, 1898, p. 126.

‡ From a letter dated April 29, 1898, to the present writer from Mr. Gompers, president of the American Federation of Labor. Mr. Gompers says further: "The rule in the United States is that the 'collective bargaining' takes place between organized labor and employers more largely in localities. Quite a number of national unions undertake local collective bargaining from national headquarters."

SETTLEMENT IN THE COAL-MINING INDUSTRY 459

coal miners, meets to stipulate the general prices and conditions which shall be maintained in the industry;* but the special application of these prices to different localities is attended to by "joint committees." Precisely this was done in Pennsylvania, Ohio, Indiana, and Illinois, after the Chicago convention. The logic of the whole situation, so far as collective bargaining is concerned, is that to make it thoroughly successful the co-operation of a large majority both of operators and miners is necessary,—a sufficiently large majority to control the industry. Moreover, from the point of view of the operator who is a party to the bargain, it practically means compulsory membership in the miners' union—the other party to the bargain—for any one seeking employment. From the point of view of the miners' union it means an agreement to the bargain on the part of the operator before the miners will work for him. Hence it is that the operators and miners represented in the joint convention at Chicago have pledged their mutual support, and that the operators urge the members of the United Mine Workers to enlist in their ranks the coal miners in all the coal-producing States. The result of this new impetus is that the miners' union is making rapid progress in Iowa, Kentucky, Alabama, and other States in which heretofore it has been weak.† The agreements reached at Chicago affect the wages and conditions of

* Not annually, but whenever it is felt a radical change is necessary; usually at intervals longer than a year. See Webb, *Industrial Democracy*, vol. i. pp. 192, 193. Compare also the discussion of collective bargaining in these passages.

† See the file of *United Mine Workers' Journal* since January, 1898.

The one thing at present which threatens to make it very difficult for the miners and operators of Pennsylvania, Ohio, Indiana, and Illinois to maintain the Chicago agreements is the fact that the mine workers are finding it almost impossible to bring the miners of West Virginia into their organization. This is largely due to the fact that many of the West Virginia miners are negroes who cannot be persuaded to join a union. The operators in that State have taken advantage of the situation, and have neither given the advance in the price for mining which the operators in the other States have given nor changed the conditions under which mining is being carried on. The larger screens are still used, and the ten-hour day still obtains. The result is that the West Virginia operators have been able to undersell the Ohio operators in a large part of the markets usually supplied by Ohio. President Ratchford has sent out a circular letter stating the facts, and requesting "that the buyers and consumers of coal . . . refuse to purchase or consume West Virginia coal until fair conditions and living wages are granted to the miners of West Virginia." This letter, dated May 16, 1898, is reprinted in the *United Mine Workers' Journal* of May 19.

labor of over 146,000 men, or three-fifths of the total number employed in the bituminous coal mining in the United States, not to speak of those who have been benefited indirectly.

The Chicago convention was not only "one of the most important interstate joint conventions of bituminous coal miners and operators ever held in America,"* it was perhaps the most remarkable gathering of employers and their workmen ever held in this country. Both parties believed that, with due recognition of mutual interests, they had placed their industry on as fair and square a basis as was possible in view of the great territorial extent which it occupied and of the varying conditions which had to be dealt with. At the close of the convention cheers were given for the leaders on both sides. The operators congratulated the miners on their good organization, and complimented their leader, President Rutherford, on his success in bringing order and harmony out of chaos and opposition. The miners praised the operators, and frankly admitted that they had received greater concessions than they had hoped for or expected. The convention closed appropriately by singing the national anthem.

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* Quoted from the *Black Diamond*, January 29, 1898, p. 126. In the same issue it is said that "the triumph for the principle of conciliation as a means of settling differences between employers and employees, which may and will arise about the price of labor, is far-reaching, and in this instance, where interests are so vast, diverse, and complex, it appears to be little short of wonderful to know that an agreement has been reached which insures peace in the coal-mining community for over a year."

NOTES AND MEMORANDA.

RECENT LEGISLATION AND ADJUDICATION ON TRUSTS.

Within the last year or two certain decisions of the courts and an investigation by the New York legislature* have revealed enough change in the legal position of trusts and monopolies to warrant some brief attention.

Towards the close of the campaign of 1896 the Democratic party, relying upon a prevalent feeling of hostility to monopolies, turned its efforts towards convincing the voters that the Republican party was the friend of the trusts and the Democratic party their enemy. It was apparently in part as a result of this campaign that the New York legislature, in its session of 1897, appointed a joint committee of the Senate and Assembly (containing, of course, a majority of Republicans) to make an investigation and to suggest legislation. The Democrats accused the Republicans of bad faith, and of a wish merely to protect the trusts; while the Republicans naturally maintained that they were as anxious as their opponents to protect the people against the evils of monopoly.

The committee held several public sessions, and took testimony, particularly with reference to the American Sugar Refining Company, the United States Rubber Company, the National Wall Paper Company, and the American Tobacco Company. The testimony shows in the main much of the same astonishing forgetfulness and ignorance of their own business on the part of the chief officers and managers of monopolies that have been exhibited in previous investigations. But, on the whole, it appears that such managers are becoming somewhat more frank regarding their methods than

* *Report and Proceedings of the Joint Committee of the Senate and Assembly appointed to investigate Trusts, Senate Document, No. 40, pp. 1240; Albany and New York, 1897.*

they were in earlier days; and one not infrequently finds bits of information that are exceedingly interesting. For example, Mr. Havemeyer said that he would not go into any business from which he could not make 15 to 20 per cent. on the capital invested, and knew "plenty" of lines of business that during the years from 1893 to 1897 obtained that rate of profit. One of the methods employed by the monopolies, the system of "factors' agreements," was explained in this investigation more fully than ever before. Under this system the companies, instead of making direct sales, go through the form of consigning their products to factors for sale under regulations which seem to give the companies a control over the distribution of the product, which, with their large if not exclusive control of the producing capacity, enables them to fix and maintain prices at will better than does any other method.

The report proper makes the distinction between legal monopolies, natural monopolies, and capitalistic monopolies that has been made of late years by economists; and the committee, quoting the definition of capitalistic monopolies originally published in the *Political Science Quarterly*, says that it confines its investigations to that class of monopolies. It admits the benefits that come from the conduct of business on a large scale, but does not find that the economies effected bring about any reduction in prices to the consumer. Nor do these economies secure a more perfect product or better wages or more constant employment of labor. It does find that through the trusts a greater stability of price has been secured, but is doubtful whether this stability is of any advantage to the consumer. Especial attention is called to the question of over-capitalization and to the evils that come from speculation in the stocks of the monopolies. Yet the majority of the committee do not feel prepared to suggest a remedy for these evils. They fear that restrictions upon the issue of capital stock or requirement of the absolute payment in cash for such stock would drive capital from the State.

As to general remedies, they are inclined to be more conservative than most of their predecessors have been. They are unwilling in any way to limit the combination of capital, which may secure the benefits of the economies of large estab-

lishments, although they do oppose those combinations whose tendency is especially to restrict trade. They believe that foreign corporations should be put under the same restrictions as domestic corporations. But their chief effort is to secure publicity with reference to the actual working of the monopolies themselves, in order that in this way they may be enabled to punish specific acts of oppression, while retaining the benefits that come from combination. To secure this end they submitted a bill, which became a law, investing the attorney-general with power to examine witnesses under a subpoena "to be issued on his application *ex parte* by a justice of the Supreme Court, conferring the constitutional guarantee of absolute immunity on those testifying."

This conservative recommendation of the majority was naturally attacked by the minority in a much more radical report. Among other things the minority recommended that the amount of capital which might be employed by a corporation organized for the purpose of manufacturing or dealing with any of the necessities of life be absolutely limited; that no stock or bonds of such a corporation be issued except at par, and for money or property actually going into the treasury of said corporation; that the number of such corporations which an individual or group of individuals might organize or control be limited; that the listing or general marketing of the stock of such corporations be prohibited; and that all speculation by directors or officers in the stock of such corporations be prohibited.

Under the act passed* on the recommendation of the majority, the attorney-general attempted to investigate the affairs of the coal combination, with the result that certain features of the act were declared unconstitutional by the Supreme Court in July, 1897.† There it was held, first, that the law attempted to impose upon the judiciary administrative and therefore non-judicial functions, in that the attorney-general sought the aid of the court in determining whether or not he should commence an action under the act. But this point was not sustained by the Appellate Division.‡ Second,

* *New York Laws, 1897*, ch. 383. † *Matter of Attorney-general*, 21 Misc. 101.

‡ 22 Appellate Division, 285.

it was held that the protection furnished in the act to the person compelled to testify against himself was not sufficient to conform to the constitutional requirement. He was protected only against indictment for perjury, not from prosecution for the crime sought to be discovered by the examination. Still further, it was declared that the petition of the attorney-general was insufficient in form, in that its allegations were made merely on information and belief, without stating sources of information or grounds. The Appellate Division* sustained the lower court in its opinion that the attorney-general's affidavits were not sufficient; and the Court of Appeals,† on a question of practice, without considering the merits of the case, dismissed it. The practical outcome of the legal contest is that under the law the attorney-general is unable to obtain the information required in order to give full publicity to the work of the combinations.

Of much greater significance, so far as the legal status of combinations in the country is concerned, are two recent decisions in the United States courts. The Supreme Court in the case of the *United States v. the Trans-Missouri Freight Association* ‡ on March 22, 1897, held that the provisions respecting contracts, combinations, and the like, in the federal act of 1890, "to protect trade and commerce against unlawful restraints and monopolies," apply to and cover common carriers by railroad, and "a contract between them in restraint of such trade or commerce is prohibited, even though the contract is entered into between competing railroads, only for the purpose of thereby effecting traffic rates for the transportation of persons and property"; and, further, that the Interstate Commerce Act of 1887 is not inconsistent with the anti-trust law, and that the prohibitory provisions of the act of 1890 "apply to all contracts in restraint of interstate or foreign trade or commerce without exception or limitation, and are not confined to those in which the restraint is unreasonable." Up to the date of this decision the only effective decisions in the way of restraining the trusts were those reached under the common law, notably the New York cases against the Sugar

* 22 Appellate Division, 285.

† 155 N. Y. 441.

‡ 166 U. S. 290.

Trust.* In these the ground of decision had been that in entering into the trust and giving over their powers to trustees they had been acting *ultra vires*. The decision that all such contracts, whether reasonable or unreasonable, are void under the act of 1890, is a very decided step towards making the law effective. Whether it is beneficial or not is another question.

The still more recent decision of February 8, 1898, in the United States Circuit Court of Appeals in the sixth circuit, in the case of the *United States v. Addyston Pipe and Steel Company*, † carries this matter still further, in the only case which has directly upheld the act of 1890, so far as it concerns "capitalistic" monopolies. In the case brought against the Sugar Trust ‡ under the act, it was held that this trust was a contract of association for the manufacture of sugar, and did not involve the restraint of sales of merchandise to be delivered across State lines, and that, therefore, the act did not apply. But in this last case against the Iron Pipe Trust it is held that "contracts which operate as a restraint upon the soliciting of orders for and the sale of goods in one State, to be delivered from another, are contracts in restraint of interstate commerce within the meaning of the act of July 2, 1890," and are therefore illegal. This decision, moreover, emphasizes the distinction between the anti-trust law and the common-law rule. In rendering the decision, the court asserted that "contracts that were in unreasonable restraint of trade at common law were not unlawful in the sense of being criminal, or as giving rise to an action for damages to one prejudicially affected thereby, but as simply void and not enforceable. The effect of the anti-trust law of 1890 is to render such contracts, as applied to interstate commerce, unlawful in the affirmative or positive sense, and punishable as a misdemeanor, and also to create a right of civil action for damages in favor of persons injured thereby, and a remedy by injunction in favor both of private persons and the public against the execution of such contracts and the maintenance of such trade restraints."

* *People v. The North River Sugar Refining Company*, 22 Abbott N. C. 164; 16 Civ. Proc. 1; 64 Hun, 354; 121 N. Y. 582.

† 85 *Federal Reporter*, p. 271.

‡ *U. S. v. E. C. Knight Co.*, 156 U. S. 1.

Heretofore it has been felt that, owing to popular pressure, the legislatures were extremely hostile towards great aggregations of capital, and that persons engaged in large enterprises, even though they were perfectly proper and beneficial to the public, must look to the courts for protection. The late decisions seem to show that the United States courts are now inclined to interpret the new laws favorably, and that it will be necessary for manufacturers, as well as for the railroads, whenever they believe that contracts which in any way restrain trade are beneficial and proper, to convince the people and the legislatures to that effect, and not to rely upon the courts to protect them against hostile legislation.

When the report of the New York Investigating Committee was printed a little over a year ago, all of the States, with the exception of fourteen, had laws against trusts or combinations of capital; and, so far as the writer is acquainted with them, all were direct attacks upon the existence of such combinations. During the legislative session of 1897 Arkansas and North Dakota passed similar laws. The New York statute, although it has proved ineffective, was beyond question more discriminating in spirit, and, in one respect at least, a step in the right direction. The intention of the law was to make it possible to ascertain accurately the methods of doing business by these organizations, and then, in the light of this knowledge, to enable the people to protect themselves against injuries, while preserving for themselves the benefits that might come from combination. Since the tendency of the United States courts to uphold and interpret favorably the hostile laws has become clear, it seems the more imperative for unprejudiced thinkers and investigators on this question to make clear to the people the exact nature of such combinations, so far as it can be learned, in order that the action of future legislatures may be wise, and not merely destructive.

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IN the second half of the academic year 1898-99 the place of Professor W. J. Ashley, absent on leave, will be taken at Harvard University by Dr. William Cunningham of Trinity College, Cambridge, England, who will offer two courses, one on the "Industrial Revolution in England" and the other on "Western Civilization in its Economic Aspects." It is possible that Dr. Cunningham, during his stay in the United States, will also give occasional lectures in other parts of the country. His established reputation assures him a cordial welcome from students of history and economics.

ANOTHER Indian currency committee has been appointed by the British government, to consider proposals from the government of India looking to the definitive establishment of the gold standard in India. The appointment of the committee indicates that this step, to which strong opposition continues, will at least be carefully weighed before its adoption is settled. The conservative ministry has chosen as chairman of the new committee Sir H. H. Fowler, who was President of the Local Government Board under the late Liberal ministry, thus indicating that the question is not expected or desired to become the occasion of party differences. A strong committee has been selected, from which thorough inquiry and report may be expected.

AMONG recent publications we note that Professor G. Cohn's *System der Nationalökonomie* has reached its third volume, in which trade and transportation are taken up. In the preface the author modestly expresses his doubt whether, in these days of multiplied special inquiry, any individual can wisely undertake, as has been the custom of German systematic writers, to cover the whole field of applied economics as well as of theory. The doubt may have been suggested by the publication, at the same time with this volume, of the completed fourth edition of the *Handbuch der Politischen*.

Oekonomie, now bound in five portly volumes, for which the editor, Professor Schönberg, continues to have the co-operation of a host of German economists. The publisher of the *Handbuch* (H. Laupp, Tübingen) announces that any earlier edition will be accepted for the sum of 20 marks, in part payment of the price (88 marks) of the new edition.

THE report of the Massachusetts Commission on Street Railways, which is noted in the list of current publications, contains not only a careful inquiry on the situation in that State, but also, in the appendices, a mass of important and valuable material which will render it of permanent value to investigators and legislators. The laws of the several States are analyzed, the conditions in the larger American cities are described, and those in European cities are not only described, but are illustrated by texts of important contracts and statutes. Those desiring to secure copies of the document should apply to the chairman of the commission, Mr. Charles F. Adams, Boston, who will give favorable attention to all reasonable requests.

THE act for the arbitration of controversies between railroads and their employees, passed by Congress in the current session, inaugurates no new policy. It does no more than to extend and elaborate the essential provisions of the similar act of 1888.* The older act had provided that a set of commissioners, with the Commissioner of Labor as chairman, might undertake mediation in such disputes; while, with the consent of both parties, a board of three arbitrators might undertake to arbitrate. In either case the expenses of the proceedings were to be borne by the United States. The new act of June 1, 1898, is framed on the same lines, but with more careful specification of the procedure, and perhaps with greater likelihood of substantial results. It differs markedly from the measure suggested in the report of the commission which

* 25 U. S. *Statutes at Large*, 561 (October 1, 1888).

investigated the Chicago-Pullman strike of 1894, and then recommended that the United States courts should "compel railroads to obey the decisions" of a body of arbitrators.

Sections 2 and 3 of the new act read as follows:—

SECTION 2. That whenever a controversy concerning wages, hours of labor, or conditions of employment shall arise between a carrier subject to this act and the employees of such carrier, seriously interrupting or threatening to interrupt the business of said carrier, the chairman of the Interstate Commerce Commission and the Commissioner of Labor shall, upon the request of either party to the controversy, with all practicable expedition, put themselves in communication with the parties to such controversy, and shall use their best efforts, by mediation and conciliation, to amicably settle the same, and, if such efforts shall be unsuccessful, shall at once endeavor to bring about an arbitration of said controversy in accordance with the provisions of this act.

SECT. 3. That, whenever a controversy shall arise between a carrier subject to this act and the employees of such carrier which cannot be settled by mediation and conciliation in the manner provided in the preceding section, said controversy may be submitted to the arbitration of a board of three persons, who shall be chosen in the manner following: one shall be named by the carrier or employer directly interested; the other shall be named by the labor organization to which the employees directly interested belong, or, if they belong to more than one, by that one of them which specially represents employees of the same grade and class and engaged in services of the same nature as said employees so directly interested. *Provided, however,* that, when a controversy involves and affects the interests of two or more classes and grades of employees belonging to different labor organizations, such arbitrator shall be agreed upon and designated by the concurrent action of all such labor organizations; and, in cases where the majority of such employees are not members of any labor organization, said employees may by a majority vte select a committee of their own number, which committee shall have the right to select the arbitrator on behalf of said employees. The two thus chosen shall select the third commissioner of arbitration; but, in the event of their failure to name such arbitrator within five days after their first meeting, the third arbitrator shall be named by the commissioners named in the preceding section. A majority of said arbitrators shall be competent to make a valid and binding award under the provisions hereof. . . .

The arbitrators so appointed have power to send for persons and papers, and to compel witnesses to attend and testify. The expenses of arbitration or conciliation, including a payment of ten dollars a day to arbitrators, are to be defrayed

by the United States, up to a limit of \$10,000 for any one year.

The submission to arbitration, to which both parties are to accede in writing in advance, must contain provisions as follows: (1) that the arbitrators shall make an award in thirty days, during which period "the status existing immediately prior to the dispute shall not be changed, provided that no employee shall be compelled to render personal service without his consent"; (2) that the award shall be filed with a circuit court of the United States, and the findings of fact shall be "conclusive"; (3) that the parties will accede to the award, and that it may be specifically enforced by the court in equity, but no injunction or other process shall compel a laborer to perform a contract for service [no such provision as to employers]; (4) that for three months after the award employers shall not discharge nor employees quit work "by reason of dissatisfaction" with the award, except after thirty days' notice; (5) that the award shall be binding for one year,—i.e., no new arbitration between the same persons shall be undertaken.

Section 7 provides that, while arbitration is pending, no employer may lawfully discharge an employee, party to the arbitration, "except for inefficiency, violation of law, or neglect of duty"; and that after arbitration the employer shall not discharge, "except for the causes aforesaid," unless with thirty days' notice; nor shall an employee quit work "without just cause," unless with thirty days' notice. These provisions, sufficiently difficult of enforcement in themselves, are further attenuated by the absence of any penalty except an undefined "liability for damages" and by an explicit recognition of the right of the employer to reduce the number of employees "whenever in his judgment business necessities require such reduction." The section, thus limited, while it proves the desire of the legislator to promote the effectiveness of the measure, makes it clear also that, after all, its satisfactory working must depend mainly on the good will and good faith of the parties concerned.

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APPENDIX.

THE FRENCH WORKMEN'S COMPENSATION ACT.

LOI CONCERNANT LES RESPONSABILITÉS DES ACCIDENTS DONT LES OUVRIERS SONT VICTIMES DANS LEUR TRAVAIL. (9 avril, 1898.)

TITRE I.

INDEMNITÉS EN CAS D'ACCIDENTS.

ARTICLE 1^{er}. Les accidents survenus par le fait du travail, ou à l'occasion du travail, aux ouvriers et employés occupés dans l'industrie du bâtiment, les usines, manufactures, chantiers, les entreprises de transport par terre et par eau, de chargement et de déchargement, les magasins publics, mines, minières, carrières, et, en outre, dans toute exploitation ou partie d'exploitation dans laquelle sont fabriquées ou mises en œuvre des matières explosives, ou dans laquelle il est fait usage d'une machine mue par une force autre que celle de l'homme ou des animaux, donnent droit, au profit de la victime ou de ses représentants, à une indemnité à la charge du chef d'entreprise, à la condition que l'interruption de travail ait duré plus de quatre jours.

Les ouvriers qui travaillent seuls d'ordinaire ne pourront être assujettis à la présente loi par le fait de la collaboration accidentelle d'un ou de plusieurs de leurs camarades.

ART. 2. Les ouvriers et employés désignés à l'article précédent ne peuvent se prévaloir, à raison des accidents dont ils sont victimes dans leur travail, d'aucunes dispositions autres que celles de la présente loi.

Ceux dont le salaire annuel dépasse deux mille quatre cents francs (2,400 fr.) ne bénéficient de ces dispositions que jusqu'à concurrence de cette somme. Pour le surplus, ils n'ont droit qu'au quart des rentes ou indemnités stipulées à l'article 3, à moins de conventions contraires quant au chiffre de la quotité.

ART. 3. Dans les cas prévus à l'article 1^{er}, l'ouvrier ou l'employé a droit:—

Pour l'incapacité absolue et permanente, à une rente égale aux deux tiers de son salaire annuel;

Pour l'incapacité partielle et permanente, à une rente égale à la moitié de la réduction que l'accident aura fait subir au salaire;

Pour l'incapacité temporaire, à une indemnité journalière égale à la moitié du salaire touché au moment de l'accident, si l'incapacité de travail a duré plus de quatre jours et à partir du cinquième jour.

Lorsque l'accident est suivi de mort, une pension est servie aux personnes ci-après désignées, à partir du décès, dans les conditions suivantes : —

A. Une rente viagère égale à 20 p. 100 du salaire annuel de la victime pour le conjoint survivant non divorcé ou séparé de corps, à la condition que le mariage ait été contracté antérieurement à l'accident.

En cas de nouveau mariage, le conjoint cesse d'avoir droit à la rente mentionnée ci-dessus ; il lui sera alloué, dans ce cas, le triple de cette rente à titre d'indemnité totale.

B. Pour les enfants, légitimes ou naturels, reconnus avant l'accident, orphelins de père ou de mère, âgés de moins de seize ans, une rente calculée sur le salaire annuel de la victime à raison de 15 p. 100 de ce salaire s'il n'y a qu'un enfant, de 25 p. 100 s'il y en a deux, de 35 p. 100 s'il y en a trois, et 40 p. 100 s'il y en a quatre ou un plus grand nombre.

Pour les enfants, orphelins de père et de mère, la rente est portée pour chacun d'eux à 20 p. 100 du salaire.

L'ensemble de ces rentes ne peut, dans le premier cas, dépasser 40 p. 100 du salaire ni 60 p. 100 dans le second.

C. Si la victime n'a ni conjoint ni enfant dans les termes des paragraphes A et B, chacun des ascendants et descendants qui était à sa charge recevra une rente viagère pour les ascendants et payable jusqu'à seize ans pour les descendants. Cette rente sera égale à 10 p. 100 du salaire annuel de la victime, sans que le montant total des rentes ainsi allouées puisse dépasser 30 p. 100.

Chacune des rentes prévues par le paragraphe C est, le cas échéant, réduite proportionnellement.

Les rentes constituées en vertu de la présente loi sont payables par trimestre ; elles sont inaccessibles et insaisissables.

Les ouvriers étrangers, victimes d'accidents qui cesseront de résider sur le territoire français, recevront, pour toute indemnité, un capital égal à trois fois la rente qui leur avait été allouée.

Les représentants d'un ouvrier étranger ne recevront aucune indemnité si, au moment de l'accident, il ne résidait pas sur le territoire français.

ART. 4. Le chef d'entreprise supporte en outre les frais médicaux et pharmaceutiques et les frais funéraires. Ces derniers sont évalués à la somme de cent francs (100 fr.) au maximum.

Quant aux frais médicaux et pharmaceutiques, si la victime a fait choix elle-même de son médecin, le chef d'entreprise ne peut être tenu que jusqu'à concurrence de la somme fixée par le juge de paix du canton, conformément aux tarifs adoptés dans chaque département pour l'assistance médicale gratuite.

ART. 5. Les chefs d'entreprise peuvent se décharger pendant les trente, soixante ou quatre-vingt-dix premiers jours à partir de l'accident, de l'obligation de payer aux victimes les frais de maladie et l'indemnité temporaire, ou une partie seulement de cette indemnité, comme il est spécifié ci-après, s'ils justifient : —

1^o Qu'ils ont affilié leurs ouvriers à des sociétés de secours mutuels et pris à leur charge une quote-part de la cotisation qui aura été déterminée d'un commun accord, et en se conformant aux statuts-type approuvés par le ministre compétent, mais qui ne devra pas être inférieure au tiers de cette cotisation ;

2^o Que ces sociétés assurent à leurs membres, en cas de blessures, pendant trente, soixante ou quatre-vingt-dix jours, les soins médicaux et pharmaceutiques et une indemnité journalière.

Si l'indemnité journalière servie par la société est inférieure à la moitié du salaire quotidien de la victime, le chef d'entreprise est tenu de lui verser la différence.

ART. 6. Les exploitants de mines, minières, et carrières peuvent se décharger des frais et indemnités mentionnés à l'article précédent moyennant une subvention annuelle versée aux caisses ou sociétés de secours constituées dans ces entreprises en vertu de la loi du 29 juin 1894.

Le montant et les conditions de cette subvention devront être acceptés par la société et approuvés par le ministre des travaux publics.

Ces deux dispositions seront applicables à tous autres chefs d'industrie qui auront créé en faveur de leurs ouvriers des caisses particulières de secours en conformité du titre III. de la loi du 29 juin 1894. L'approbation prévue ci-dessus sera, en ce qui les concerne, donnée par le ministre du commerce et de l'industrie.

ART. 7. Indépendamment de l'action résultant de la présente loi, la victime ou ses représentants conservent, contre les auteurs de l'accident autres que le patron ou ses ouvriers et préposés, le droit de réclamer la réparation du préjudice causé, conformément aux règles du droit commun.

L'indemnité qui leur sera allouée exonérera à due concurrence le chef d'entreprise des obligations mises à sa charge.

Cette action contre les tiers responsables pourra même être exercée par le chef d'entreprise, à ses risques et périls, au lieu et place de la victime ou de ses ayants droit, si ceux-ci négligent d'en faire usage.

ART. 8. Le salaire qui servira de base à la fixation de l'indemnité allouée à l'ouvrier âgé de moins de seize ans ou à l'apprenti victime d'un accident ne sera pas inférieur au salaire le plus bas des ouvriers valides de la même catégorie occupés dans l'entreprise.

Toutefois, dans le cas d'incapacité temporaire, l'indemnité de l'ouvrier âgé de moins de seize ans ne pourra pas dépasser le montant de son salaire.

ART. 9. Lors du règlement définitif de la rente viagère, après le délai de révision prévu à l'article 19, la victime peut demander que le quart au plus du capital nécessaire à l'établissement de cette rente, calculé d'après les tarifs dressés pour les victimes d'accidents par la caisse des retraites pour la vieillesse, lui soit attribué en espèces.

Elle peut aussi demander que ce capital, ou ce capital réduit du quart au plus comme il vient d'être dit, serve à constituer sur sa tête une rente viagère réversible, pour moitié au plus, sur la tête de son conjoint. Dans ce cas, la rente viagère sera diminuée de façon qu'il ne résulte de la réversibilité aucune augmentation de charges pour le chef d'entreprise.

Le tribunal, en chambre du conseil, statuera, sur ces demandes.

ART. 10. Le salaire servant de base à la fixation des rentes s'entend, pour l'ouvrier occupé dans l'entreprise pendant les douze mois écoulés avant l'accident, de la rémunération effective qui lui a été allouée pendant ce temps, soit en argent, soit en nature.

Pour les ouvriers occupés pendant moins de douze mois avant l'accident, il doit s'entendre de la rémunération effective qu'ils ont reçue depuis leur entrée dans l'entreprise, augmentée de la rémunération moyenne qu'ont reçue, pendant la période nécessaire pour compléter les douze mois, les ouvriers de la même catégorie.

Si le travail n'est pas continu, le salaire annuel est calculé tant d'après la rémunération reçue pendant la période d'activité que d'après le gain de l'ouvrier pendant le reste de l'année.

TITRE II.

DÉCLARATION DES ACCIDENTS ET ENQUÊTE.

ART. 11. Tout accident ayant occasionné une incapacité de travail doit être déclaré, dans les quarante-huit heures, par le chef d'entreprise ou ses préposés, au maire de la commune qui en dresse procès-verbal.

Cette déclaration doit contenir les noms et adresses des témoins de l'accident. Il y est joint un certificat de médecin indiquant l'état de la victime, les suites probables de l'accident et l'époque à laquelle il sera possible d'en connaître le résultat définitif.

La même déclaration pourra être faite par la victime ou ses représentants.

Récépissé de la déclaration et du certificat du médecin est remis par le maire au déclarant.

Avis de l'accident est donné immédiatement par le maire à l'inspecteur divisionnaire ou départemental du travail ou à l'ingénieur ordinaire des mines chargé de la surveillance de l'entreprise.

L'article 15 de la loi du 2 novembre 1892 et l'article 11 de la loi du 12 juin 1893 cessent d'être applicables dans les cas visés par la présente loi.

ART. 12. Lorsque, d'après le certificat médical, la blessure paraît devoir entraîner la mort ou une incapacité permanente absolue ou partielle de travail, le maire transmet immédiatement copie de la déclaration et le certificat médical au juge de paix du canton où l'accident s'est produit.

Dans les vingt-quatre heures de la réception de cet avis, le juge de paix procède à une enquête à l'effet de rechercher :—

- 1^o La cause, la nature, et les circonstances de l'accident;
- 2^o Les personnes victimes et le lieu où elles se trouvent;
- 3^o La nature des lésions;
- 4^o Les ayants droit pouvant, le cas échéant, prétendre à une indemnité;
- 5^o Le salaire quotidien et le salaire annuel des victimes.

ART. 13. [Regulates the mode in which judicial inquiry on accidents shall proceed.]

ART. 14. Sont punis d'une amende de un à quinze francs (1 à 15 fr.) les chefs d'industrie ou leurs préposés qui ont contrevenu aux dispositions de l'article 11.

En cas de récidive dans l'année, l'amende peut être élevée de seize à trois cents francs (16 à 300 fr.).

L'article 463 du code pénal est applicable aux contraventions prévues par le présent article.

TITRE III.

COMPÉTENCE.— JURISDICTIONS.— PROCÉDURE.— RÉVISION.

ART. 15. Les contestations entre les victimes d'accidents et les chefs d'entreprise, relatives aux frais funéraires, aux frais de maladie ou aux indemnités temporaires, sont jugées en dernier ressort par le juge de paix du canton où l'accident s'est produit à quelque chiffre que la demande puisse s'élever.

ART. 16. En ce qui touche les autres indemnités prévues par la présente loi, le président du tribunal de l'arrondissement convoque,

dans les cinq jours à partir de la transmission du dossier, la victime ou ses ayants droit et le chef d'entreprise, qui peut se faire représenter.

S'il y a accord des parties intéressées, l'indemnité est définitivement fixée par l'ordonnance du président, qui donne acte de cet accord.

Si l'accord n'a pas lieu, l'affaire est renvoyée devant le tribunal, qui statue comme en matière sommaire, conformément au titre XXIV. du livre II. du code de procédure civile.

Si la cause n'est pas en état, le tribunal sursoit à statuer et l'indemnité temporaire continuera à être servie jusqu'à la décision définitive.

Le tribunal pourra condamner le chef d'entreprise à payer une provision, sa décision sur ce point sera exécutoire nonobstant appel.

ART. 17. [As to appeals from the courts of first jurisdiction.]

ART. 18. L'action en indemnité prévue par la présente loi se prescrit par un an à dater du jour de l'accident.

ART. 19. La demande en révision de l'indemnité fondée sur une aggravation ou une atténuation de l'infirmité de la victime ou son décès par suite des conséquences de l'accident, est ouverte pendant trois ans à dater de l'accord intervenu entre les parties ou de la décision définitive.

Le titre de pension n'est remis à la victime qu'à l'expiration des trois ans.

ART. 20. Aucune des indemnités déterminées par la présente loi ne peut être attribuée à la victime qui a intentionnellement provoqué l'accident.

Le tribunal a le droit, s'il est prouvé que l'accident est dû à une faute inexcusable de l'ouvrier, de diminuer la pension fixée au titre I^{re}.

Lorsqu'il est prouvé que l'accident est dû à la faute inexcusable du patron ou de ceux qu'il s'est substitué dans la direction, l'indemnité pourra être majorée, mais sans que la rente ou le total des rentes allouées puisse dépasser soit la réduction soit le montant du salaire annuel.

ART. 21. Les parties peuvent toujours, après détermination du chiffre de l'indemnité due à la victime de l'accident, décider que le service de la pension sera suspendu et remplacé, tant que l'accord subsistera, par tout autre mode de réparation.

Sauf dans le cas prévu à l'article 3, paragraphe A, la pension ne pourra être remplacée par le paiement d'un capital que si elle n'est pas supérieure à 100 fr.

ART. 22. Le bénéfice de l'assistance judiciaire est accordé de plein

droit, sur le visa du procureur de la République, à la victime de l'accident ou à ses ayants droit, devant le tribunal.

À cet effet, le président du tribunal adresse au procureur de la République, dans les trois jours de la comparution des parties prévue par l'article 16, un extrait de son procès-verbal de non-conciliation ; il y joint les pièces de l'affaire.

Le procureur de la République procède comme il est prescrit à l'article 18 (paragraphes 2 et suivants) de la loi du 22 janvier 1851.

Le bénéfice de l'assistance judiciaire s'étend de plein droit aux instances devant le juge de paix, à tous les actes d'exécution mobilière et immobilière, et à toute contestation incidente à l'exécution des décisions judiciaires.

TITRE IV.

GARANTIES.

ART. 23. La créance de la victime de l'accident ou de ses ayants droit relative aux frais médicaux, pharmaceutiques, et funéraires ainsi qu'aux indemnités allouées à la suite de l'incapacité temporaire de travail, est garantie par le privilège de l'article 2101 du code civil et y sera inscrite sous le n° 6.

Le paiement des indemnités pour incapacité permanente de travail ou accidents suivis de mort est garanti conformément aux dispositions des articles suivants.

ART. 24. À défaut, soit par les chefs d'entreprise débiteurs, soit par les sociétés d'assurances à primes fixes ou mutuelles, ou les syndicats de garantie liant solidiairement tous leurs adhérents, de s'acquitter, au moment de leur exigibilité, des indemnités mises à leur charge à la suite d'accidents ayant entraîné la mort ou une incapacité permanente de travail, le paiement en sera assuré aux intéressés par les soins de la caisse nationale des retraites pour la vieillesse, au moyen d'un fonds spécial de garantie constitué comme il va être dit et dont la gestion sera confiée à la-dite caisse.

ART. 25. Pour la constitution du fonds spécial de garantie, il sera ajouté au principal de la contribution des patentés des industriels visées par l'article 1^{er}, quatre centimes (0 fr. 04) additionnels. Il sera perçu sur les mines une taxe de cinq centimes (0 fr. 05) par hectare concédé.

Ces taxes pourront, suivant les besoins, être majorées ou réduites par la loi de finances.

ART. 26. La caisse nationale des retraites exercera un recours contre les chefs d'entreprise débiteurs, pour le compte desquels des sommes auront été payées par elle, conformément aux dispositions qui précédent.

En cas d'assurance du chef d'entreprise, elle jouira, pour le remboursement de ses avances, du privilège de l'article 2102 du code civil sur l'indemnité due par l'assureur et n'aura plus de recours contre le chef d'entreprise.

Un règlement d'administration publique déterminera les conditions d'organisation et de fonctionnement du service conféré par les dispositions précédentes à la caisse nationale des retraites et, notamment, les formes du recours à exercer contre les chefs d'entreprise débiteurs ou les sociétés d'assurances et les syndicats de garantie, ainsi que les conditions dans lesquelles les victimes d'accidents ou leurs ayants droit seront admis à réclamer à la caisse le paiement de leurs indemnités.

Les décisions judiciaires n'emporteront hypothèque que si elles sont rendues au profit de la caisse des retraites exerçant son recours contre les chefs d'entreprise ou les compagnies d'assurances.

ART. 27. Les compagnies d'assurances mutuelles ou à primes fixes contre les accidents, françaises ou étrangères, sont soumises à la surveillance et au contrôle de l'Etat et astreintes à constituer des réserves ou cautionnements dans les conditions déterminées par un règlement d'administration publique.

Le montant des réserves ou cautionnements sera affecté par privilège au paiement des pensions et indemnités.

Les syndicats de garantie seront soumis à la même surveillance, et un règlement d'administration publique déterminera les conditions de leur création et de leur fonctionnement.

Les frais de toute nature résultant de la surveillance et du contrôle seront couverts au moyen de contributions proportionnelles au montant des réserves ou cautionnements, et fixés annuellement, pour chaque compagnie ou association, par arrêté du ministre du commerce.

ART. 28. Le versement du capital représentatif des pensions allouées en vertu de la présente loi ne peut être exigé des débiteurs.

Toutefois, les débiteurs qui désireront se libérer en une fois pourront verser le capital représentatif de ces pensions à la caisse nationale des retraites, qui établira à cet effet, dans les six mois de la promulgation de la présente loi, un tarif tenant compte de la mortalité des victimes d'accidents et de leurs ayants droit.

Lorsqu'un chef d'entreprise cesse son industrie, soit volontairement, soit par décès, liquidation judiciaire, ou faillite, soit par cession d'établissement, le capital représentatif des pensions à sa charge devient exigible de plein droit et sera versé à la caisse nationale des retraites. Ce capital sera déterminé au jour de son exigibilité, d'après le tarif visé au paragraphe précédent.

Toutefois le chef d'entreprise ou ses ayants droit peuvent être exonérés du versement de ce capital, s'ils fournissent des garanties qui seront à déterminer par un règlement d'administration publique.

TITRE V.

DISPOSITIONS GÉNÉRALES.

ART. 29. [Documents and certificates made out under the provisions of the act to be delivered gratis and free of stamp tax.]

ART. 30. Toute convention contraire à la présente loi est nulle de plein droit.

ART. 31. Les chefs d'entreprise sont tenus, sous peine d'une amende de un à quinze francs (1 à 15 fr.), de faire afficher dans chaque atelier la présente loi et les règlements d'administration relatifs à son exécution.

En cas de récidive dans la même année, l'amende sera de seize à cent francs (16 à 100 fr.).

Les infractions aux dispositions des articles 11 et 31 pourront être constatées par les inspecteurs du travail.

ART. 32. Il n'est point dérogé aux lois, ordonnances, et règlements concernant les pensions des ouvriers, apprentis, et journaliers appartenant aux ateliers de la marine et celles des ouvriers immatriculés des manufactures d'armes dépendant du ministère de la guerre.

ART. 33. La présente loi ne sera applicable que trois mois après la publication officielle des décrets d'administration publique qui doivent en régler l'exécution.

ART. 34. Un règlement d'administration publique déterminera les conditions dans lesquelles la présente loi pourra être appliquée à l'Algérie et aux colonies.

THE
QUARTERLY JOURNAL
OF
ECONOMICS

VOL. XII

JULY, 1898

No. 4

CONTENTS

	PAGE
I. WHY IS ECONOMICS NOT AN EVOLUTIONARY SCIENCE? - - - - -	Thorstein Veblen 373
II. THE FRENCH WORKMEN'S COMPENSATION ACT	398
<i>William Franklin Willoughby</i>	
III. THE GAS SUPPLY OF BOSTON. I.	John H. Gray 419
IV. THE SETTLEMENT IN THE COAL-MINING INDUSTRY - - - - -	J. E. George 447
 NOTES AND MEMORANDA:	
Recent Legislation and Adjudication on Trusts - - - - -	461
<i>Jeremiah W. Jenks</i>	
RECENT PUBLICATIONS UPON ECONOMICS - - - - -	471
 APPENDIX.	
THE FRENCH WORKMEN'S COMPENSATION ACT - - - - -	478

PUBLISHED FOR HARVARD UNIVERSITY

BOSTON, U.S.A.

GEORGE H. ELLIS, 141 FRANKLIN STREET

1898

NEW YORK, U.S.A., AND LONDON, MACMILLAN & CO.

The Quarterly Journal of Economics.

Published for Harvard University.

Books, periodicals, and manuscript to be addressed, EDITORS of QUARTERLY JOURNAL OF ECONOMICS, Cambridge, Mass.

Business letters, etc., to be addressed, GEORGE H. ELLIS, Publisher, 141 Franklin Street, Boston, Mass.

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CONTENTS FOR JANUARY, 1898.

I. COURNOT AND MATHEMATICAL ECONOMICS	Irving Fisher
II. CANADA AND THE SILVER QUESTION	John Davidson
III. MONETARY CHANGES IN JAPAN	Garrett Drobbers
IV. THE COAL MINERS' STRIKE OF 1897	J. E. George
V. THE LEASE OF THE PHILADELPHIA GAS-WORKS	William Draper Lewis
NOTES AND MEMORANDA.	
RECENT PUBLICATIONS UPON ECONOMICS.	

APPENDIX.

NOTES ON COURNOT'S MATHEMATICS.

CONTENTS FOR APRIL, 1898.

I. THE FRENCH CANADIANS IN NEW ENGLAND	William MacDonald
II. THE BANK-NOTE SYSTEM OF SWITZERLAND	A. Sandor
III. THE OBJECTS AND METHODS OF CURRENCY REFORM IN THE UNITED STATES	F. M. Taylor
NOTES AND MEMORANDA:	
Samuel Bailey on Appreciation	C. W. Mixer
RECENT PUBLICATIONS UPON ECONOMICS.	

APPENDIX.

A BILL FOR THE ESTABLISHMENT OF A SWISS FEDERAL BANK OF ISSUE.

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